



Implemented by



In cooperation with



# The Western Balkans Startup Ecosystem Report Assessment and Development Roadmap

# Imprint

## Published by

Deutsche Gesellschaft für  
Internationale Zusammenarbeit (GIZ) GmbH

## Registered offices

Bonn and Eschborn, Germany

## Open Regional Fund for South-East Europe- Foreign Trade

Deutsche Gesellschaft für Internationale  
Zusammenarbeit (GIZ) GmbH  
Zmaja od Bosne 7-7a 71000 Sarajevo  
Bosnia and Herzegovina

**Phone:** 00387 33 957 500

**Fax:** 00387 33 957 501

GIZ-BosnienHerzegowina@giz.de

www.giz.de

## As at May 2021,

### Design

- **Name:** Startup Genome
- **City:** San Francisco

### Text

- Startup Genome
- GIZ is responsible for the content of this publication On behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ)

# Table of Contents

- 1 Introduction & Scope
- 2 Status Quo
- 3 SSOP: Mapping Start-up Support Programs and Identifying existing Gaps
- 4 Funding: Evaluating Early-Stage Funding
- 5 Sectors: Feasibility of Smart Specialization
- 6 Other collaboration opportunities
- 7 Scenario 2026: Development Potential and Investment Needs
- 8 Ecosystem Development Roadmap

# Table of Contents

- Introduction and Scope (p. 9)

---

- Status Quo: (p.11)
  - WB6 regional summary and country overview
  - SSOP Mapping by country and regional summary
  - Success Factor Model walk through

---

- SSOP: Mapping, Gap Identification and Forward Strategy (p. 18)

---

- Funding: Addressing the Early-Stage Funding Gap (p. 45)

---

- Sectors: Mapping and Smart Specialization, example AgTech (p. 68)

---

- Vision 2026: Potential and Investment Needs (p. 81)

---

- Other collaboration opportunities (p. 87)
  - Policy
  - Culture and Connectedness
  - Branding and Awareness

---

- Ecosystem Development Roadmap (p. 102)

---

- Appendices (p. 106)

# List of Abbreviations Used

CEFTA -	Central European Free Trade Agreement
CoE -	Centers of Excellence
EBRD -	European Bank for Reconstruction and Development
FoF -	Fund of Funds
GIZ -	Deutsche Gesellschaft für Internationale Zusammenarbeit
GDP -	Gross Domestic Product
GEN -	Global Entrepreneurship Network
ICT -	Information and Communication Technology
IPO -	Initial Public Offering
MVP -	Minimum Viable Product
PoC -	Proof of Concept
PR -	Public Relations
R&D -	Research and Development
SME -	Small and Medium-sized Enterprises
SSOP -	Start-up Support Organizations and Programs
VC -	Venture Capital
WB6 -	Western Balkans Six (Albania, Bosnia and Herzegovina, Kosovo, North Macedonia, Montenegro, Serbia)
WEF -	World Economic Forum

# Recognition of Hub Participants

 <p><b>BUSINESS INCUBATOR</b> NOVI SAD</p>	<p>Business Incubator Novi Sad</p>	 <p>ministry of programming</p>	<p>Ministry of Programming</p>
 <p>Center for technology transfer University of Belgrade</p>	<p>Center for Technology Transfer</p>	 <p>HUB 387</p>	<p>HUB387/ Academy387</p>
 <p>Digital Serbia Initiative</p>	<p>Digital Serbia Initiative (DSI)</p>	 <p>Tehnopolis Inovaciono Preduzetnički Centar</p>	<p>Tehnopolis</p>
 <p>EBRD Star Venture</p>	<p>EBRD- Star Venture</p>	 <p>INNOVATION CENTRE KOSOVO</p>	<p>ICK</p>
 <p>ICT HUB VENTURE</p>	<p>ICT Hub Venture</p>	 <p>OFICINA INNOVATION HUB</p>	<p>Oficina</p>

# Recognition of Hub Participants

	EU for Innovation		Startup Macedonia
	Protik Innovation Center		North Macedonia Fund for Innovation
	UKIM Business Accelerator		Pixyle
	SEEU Tech Park		Swiss EP

# Table of Contents

- 1 Introduction & Scope
- 2 Status Quo
- 3 SSOP: Mapping Start-up Support Programs and Identifying existing Gaps
- 4 Funding: Evaluating Early-Stage Funding
- 5 Sectors: Feasibility of Smart Specialization
- 6 Scenario 2026: Development Potential and Investment Needs
- 7 Other collaboration opportunities
- 8 Ecosystem Development Roadmap



# Introduction and Scope

## Background

This document was created within the project “Supporting the professionalization of the start-up ecosystems in the Western Balkans region” as a part of the Open Regional Funds for South-East Europe – Foreign Trade, implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ). The objective of the project is to professionalize the start-up ecosystems in the Western Balkan region to create better development conditions for start-ups.

## Report Purpose

Startup Genome was commissioned by GIZ to conduct an ecosystem mapping of the WB6 in order to contribute to the professionalization of start-up Support Organizations and Programs (SSOPs) and the relative size of the six start-up ecosystems. In this project, Genome particularly engaged the question of opportunities for regional collaboration to develop critical mass regarding to key ecosystem success factors for start-ups.

## Scope of Research

Quantitative data taken from start-up Genome internal surveys combined with secondary sources such as Dealroom, Crunchbase and PitchBook. **These totals serve to represent the picture an external investor or stakeholder would have of the WB6 when doing analysis and certainly underrepresents the amount of funding activity and total number of start-ups present in the WB6.**

## Collection of Insights

Startup Genome conducted qualitative interviews with eighteen WB6 SSOPs, start-up founders and regional stakeholders. Additional desk research of key sources and international measurements (World Factbook, Doing Business Index, Global Competitiveness Index, etc) are utilized alongside start-up Genome methodology to frame the local situation of the WB6 with international ecosystems of comparable size and to further test hypotheses and recommendations.

# Table of Contents

- 1 Introduction & Scope
- 2 Status Quo
- 3 SSOP: Mapping Start-up Support Programs and Identifying existing Gaps
- 4 Funding: Evaluating Early-Stage Funding
- 5 Sectors: Feasibility of Smart Specialization
- 6 Scenario 2026: Development Potential and Investment Needs
- 7 Other collaboration opportunities
- 8 Ecosystem Development Roadmap

# Status Quo and Initial Observations – Introduction

## Role of ICT Industries

All WB6 countries have huge hopes and expectations as to their ICT industries. Whilst these industries are not yet dominant industry sectors in any of the WB6 geographies (approx. 5% GDP contribution on average), they are engines of growth, and they provide an increasing number of highly qualified and well-remunerated employment opportunities. Official statistics may well undervalue the significance of these industries, as allegedly an “army of freelance talent” is creating additional but unreported income.

## New Breed to Companies

Whilst the ICT sector already has a longer history in the WB6 region, we found increasing evidence of a new breed of tech companies – tech start-ups – that are pursuing rather different market opportunities and prove to be way more radical in their application of technical and business model innovation. Importantly and different to the ICT Services/Outsourcing Sector they also are a key driver of IP development in digital technology.

## New Sectors

The majority of start-ups today operates in software, eCommerce, digital marketing (AdTech) and Gaming related domains; however, the segment shows signs of branching out into different sectors such as Healthcare, Infrastructure, Education, Manufacturing and AgTech to name but a few that combine software with the physical environment.

## Nascent but promising

Today start-ups are in their few hundreds in aggregate, and they are mostly early stage in their development. However, by drawing parallels with developments in more mature economies, the potential of this new market segment becomes evident.

# Status Quo and Initial Observations – start-ups

## Most companies are in Seed Stage

With a view to the life cycle stages of WB6 start-ups, unsurprisingly, there is a larger number of companies at Seed stage, a smaller number of Early-Stage start-ups but only very few companies in the later start-up and Scale-up stages

## Later Stage Companies with ICT background

Most of the later stage companies have built upon the ICT industries in their geographies and focused on providing specialized and highly innovative software development services.

## Geo Expansion is key for Growth

Later stage companies in the WB6 region rapidly outgrow their small domestic and regional markets. Largely they are driving their geographic expansion, access to investment capital and more specialist support by setting up head offices in larger ecosystems, importantly in the larger US clusters, in the London ecosystem or by tapping resource in more advanced Eastern European hubs.

## Commitment to the Region

Positively most of these scale-ups retain their development and operations capabilities in the WB6 region. In our interviews, founders of scale-up companies showed a strong commitment to the region with a large majority confirming both the need to expand abroad but also their desire to retain a significant footprint at home.

## Creating Role Models

These successful entrepreneurs serve as role models, they are building profile for the industry, driving a positive attitude towards entrepreneurship and they provide practical assistance to their younger peers, e.g., by sharing their experiences and international relationship networks.

## Clusters start developing

Their focal role is also evident in the industry focus of the local ecosystems. Many more start-ups have been established in the industries where successful scale-up companies already exist, e.g., with developments in gaming close to gaming powerhouses Nordeus (SRB) and NSOFT (BiH) or in the vicinity of the larger software developers in North Macedonia and in Kosovo.

# Status Quo and Initial Observations – Support Programs

## Focus on Pre-seed/Seed Stage

Parallel to the emergence of small clusters of start-ups, a whole range of ecosystem support activities has been developing. These are focused on the needs of early-stage start-ups and range from informal meet-ups, some larger community events and conferences to the provision of co-working spaces.

## Training, Spaces and Incubation

Technical Skills Training, start-up knowledge, mentorship expertise and incubation programs exist in most locations and typically they are offered as part of the programming happening at co-working spaces and at science and business parks.

## Lack of Growth Programs

Access to more experienced mentors and scale coaches though remains severely limited. Founders in the acceleration and growth stages still need to find advice and acceleration opportunities in the larger start-up ecosystems in Western Europe and the United States.

## Patchwork regarding connectivity

Typically for the early activation stage, the WB6 ecosystems increasingly have all the support elements needed for future and more rapid development; however, connectivity amongst these elements that would allow for a start-up to more easily move through the business life-cycle stages still seem lacking.

## Collaboration to unlock potential

By better connecting already existing initiatives, by backfilling evident gaps in in the business-life-cycle, e.g., in growth mentorship and acceleration opportunities, the WB6 ecosystems have the opportunity to rather quickly improve the quality of the start-up support environment.

# Status Quo and Initial Observations – Funding

## Funding remains a key challenge

Access to Funding – particularly beyond initial grant funding - remains one of the pressing problems for the start-up ecosystem across the region.

## Lack of private funding

Access to private funding and particularly to the “smart money” typically found with Business Angels and Venture Capital Firms is largely non-existent in the WB6 region.

## Outliers rather than the norm

Very few exceptions such as EU EIF backed venture capital firm South Central Ventures, activity from Bulgarian accelerator Eleven and few local private initiatives such as StartLabs and ICT Ventures are the only evidence of a private and equity led funding industry. International firms with their much larger resource and importantly their experience and global networks remain largely absent.

## Grants are essential but not sufficient

Public and donor funded start-up grants do exist; however, in their large majority they fall short of a mid- to longer term investment horizon and by their very nature they are limited in providing the advice that an experienced private investor would inject into a portfolio company. Start-up grants will continue to play an important role to spark entrepreneurship activity; however, they need complementing with private Seed Stage and Series A Funding solutions.

## Efficient policy frameworks and Incentives

Can further help with investors attraction and in building the expertise and market mechanisms that are required for successful investments and exit opportunities. A holistic view to a private-public funding solution including with strong links to deal flow are much needed.

# Status Quo and Initial Observations – Talent

## Limited number of Founders and Hiring Issues

Whilst growing, the overall number of start-up founders remains relatively small and existing start-ups continue to report significant hiring issues. This situation at first hand seems bewildering in an environment where youth unemployment remains relatively high and where tech start-ups may provide risky but promising career prospects.

## Education System – Improved but Gaps remain

Though improvements are evident in the last few years, the education systems continue to produce graduates with skills sets that are ill-aligned with the requirements of both, existing ICT industries and the tech start-up ecosystems

## Career Risk

Those between a high-risk start-up environment and the security of position with government, a larger corporation or even with a high paying opportunity as a freelance ICT expert. More can be done to reward those “who dared but failed”, e.g., by providing “on ramps” to traditional career opportunity.

## Entrepreneurship as a Plan A Choice

Fostering the perception of entrepreneurship as a great career choice, including with changing public perception of the start-up segment, remain challenges that need addressing.

## Driving broader perception

Communications campaigns and a dialogue involving broader society seem much needed to properly embed the concepts of digital technologies and entrepreneurship. Positively, the pandemic likely will already have changed perceptions significantly, contributing to broader appreciation of the sector. This may well prove a Window of Opportunity to further embed Entrepreneurship.

# Status Quo and Initial Observations – Collaboration

## Developing Local Connectedness

Particularly in young ecosystems, collaboration between all ecosystem stakeholders should be a priority as Community Interactions and Local Connectedness typically are not yet fully developed.

## Culture Change

In the WB6 region, we believe this challenge to be even more relevant as culturally ecosystem participants are less inclined to share ideas and knowledge as compared to many other ecosystems the world over. Given the impact of community quality and Local Connectedness, it seems imperative to help in developing a more supportive ecosystem community.

## R&D and Companies

Start-ups can benefit from the technical expertise in R&D institutions and the wider relationship networks and deeper investment funding capabilities of corporations and larger SMEs (“Mittelstand”). Again, we believe these networks and collaboration opportunities to remain underdeveloped compared to other smaller digital ecosystems.

## Digital Transformation

The accelerated drive towards high factor efficiency and digitally enabled business processes is a necessity for many traditional companies and the public sector. Pioneering founders can bring the agility and disruptive thinking that traditional organizations require to remain competitive. This includes public authorities with their often-large public procurement budgets. Building a collaborative environment here will considerably add to start-up opportunity throughout the region.

## Untapped potential

In the Western Balkans, the potential – and the need for - tech collaboration undoubtedly exists, however; thus far it remains largely untapped. The Growth Acceleration program and the perspective on Smart Specialization in this report would strongly benefit from a close engagement of R&D Centers, collaboration with corporations and the public sector.



# Table of Contents

- 1 Introduction & Scope
- 2 Status Quo
- 3 SSOP: Mapping Start-up Support Programs and Identifying existing Gaps
- 4 Funding: Evaluating Early-Stage Funding
- 5 Sectors: Feasibility of Smart Specialization
- 6 Scenario 2026: Development Potential and Investment Needs
- 7 Other collaboration opportunities
- 8 Ecosystem Development Roadmap

# WB 6 Ecosystem Mapping\* - Albania

## Select SSOPs

	No. of start-ups	Density
Country	56	19/Mill
Tirana	28	67/Mill

---


**Funding**

• Overall Funding (last 30 months)	8,925,380	100%
• Early Stage (Seed)	225,000	3%
• Series A	2,000,000	22%
• Later Stage (A+ onward)	6,700,000	75%

**Notable rounds**

- Gjirafa- One of the most successful start-ups in the Balkans, Gjirafa has raised \$8.7 million since its foundation.

Source: Dealroom, PitchBook, Crunchbase

 **It is imperative to shift the local mindset to let start-ups know that they are missing out when they don't collaborate.**

*(SSOP leader)*

<b>Ecosystem Agencies &amp; Keystone Teams</b> <ul style="list-style-type: none"> <li>• Oficina</li> <li>• Protik</li> </ul>	<b>Education / Training</b> <ul style="list-style-type: none"> <li>• Harry Fultz Institute</li> <li>• ICTS Lab</li> <li>• Oficina</li> <li>• Open Labs Hackerspace</li> <li>• Techspace</li> </ul>	<b>Workspaces</b> <ul style="list-style-type: none"> <li>• Dutch hub</li> <li>• InnoSpace</li> <li>• Oficina</li> <li>• Tirana Business Park</li> </ul>
<b>Incubation</b> <ul style="list-style-type: none"> <li>• Oficina</li> <li>• UK-Albania Tech Hub</li> <li>• Yunus Social Business</li> </ul>	<b>Acceleration &amp; Growth</b> <ul style="list-style-type: none"> <li>• None</li> </ul>	<b>Scaling and International</b> <ul style="list-style-type: none"> <li>• None</li> </ul>
<b>Angels / Angel Groups</b> <ul style="list-style-type: none"> <li>• None</li> </ul>	<b>VCs</b> <ul style="list-style-type: none"> <li>• Fil Rouge Capital</li> <li>• South Central Ventures</li> </ul>	

# WB 6 Ecosystem Mapping\* – Bosnia and Herzegovina

## Select SSOPs

	No. of start-ups	Density
Country	34	8.9/Mill
Sarajevo	19	5/Mill
<b>Funding</b>		
• Overall Funding (last 30 months)	\$132,000	100%
• Early Stage (Seed)	\$132,000	100%
• Series A	0	0%
• Later Stage (A+ onward)	0	0%
<b>Notable rounds</b>		
• None		
Source: Dealroom, PitchBook, Crunchbase		
<p><b>Local Bosnian start-ups are in a black pit of a donor environment and a brain drain as successful entrepreneurs leave the country.</b></p> <p><i>(SSOP leader)</i></p>		

<b>Ecosystem Agencies &amp; Keystone Teams</b> <ul style="list-style-type: none"> <li>• Hub/Academy 387</li> <li>• Ministry of Programming</li> </ul>	<b>Education / Training</b> <ul style="list-style-type: none"> <li>• Beezone</li> <li>• Foundation Mozaik</li> <li>• Hub/Academy 387</li> <li>• Linnovate</li> <li>• SPARK</li> <li>• Zenica Development Agency</li> </ul>	<b>Workspaces</b> <ul style="list-style-type: none"> <li>• BIT Center</li> <li>• Foundation 787</li> <li>• Hub/Academy 387</li> <li>• INTERA Technology Park</li> <li>• Qlab</li> </ul>
<b>Incubation</b> <ul style="list-style-type: none"> <li>• Beezone</li> <li>• BIT Center</li> <li>• INTERA Technology Park</li> <li>• Innovation Center Banja Luka</li> <li>• Linnovate</li> <li>• Zenica Development Agency</li> </ul>	<b>Acceleration &amp; Growth</b> <ul style="list-style-type: none"> <li>• Ministry of Programming</li> </ul>	<b>Scaling and International</b> <ul style="list-style-type: none"> <li>• Ministry of Programming</li> </ul>
<b>Angels / Angel Groups</b> <ul style="list-style-type: none"> <li>• None</li> </ul>	<b>VCs</b> <ul style="list-style-type: none"> <li>• South Central Ventures</li> </ul>	

# WB 6 Ecosystem Mapping\* – Kosovo

## Select SSOPs

	No. of start-ups	Density
Country	13	6.7/Mill
Pristina	10	5.1/Mill

---


**Funding**

• Overall Funding (last 30 months)	\$345,000	100%
• Early Stage (Seed)	\$345,000	100%
• Series A	0	0%
• Later Stage (A+ onward)	0	0%

**Notable rounds**

- Labbox Education- raised funding in two separate rounds.

Source: Dealroom, PitchBook, Crunchbase

 **We need better local mapping and data, as when someone asks me how much progress we've made in the last 2-3 years, I can't definitively answer the question.**  
(SSOP leader)

<b>Ecosystem Agencies &amp; Keystone Teams</b> <ul style="list-style-type: none"> <li>• ICK</li> <li>• Gjirafa Labs</li> </ul>	<b>Education / Training</b> <ul style="list-style-type: none"> <li>• Business Support Center Kosovo</li> <li>• D&amp;D Business Support</li> <li>• ICK</li> <li>• ITP Prizren</li> <li>• Innovation Lab Kosovo</li> <li>• Jakova Innovation Center</li> <li>• MDA Foundation</li> </ul>	<b>Workspaces</b> <ul style="list-style-type: none"> <li>• Gjirafa Labs</li> <li>• ICK</li> <li>• ITP Prizren</li> <li>• Jakova Innovation Center</li> <li>• Open Data Kosovo</li> <li>• Prishtina Hackerspace</li> </ul>
<b>Incubation</b> <ul style="list-style-type: none"> <li>• Gjirafa Labs</li> <li>• ICK</li> <li>• ITP Prizren</li> <li>• Jakova Innovation Center</li> </ul>	<b>Acceleration &amp; Growth</b> <ul style="list-style-type: none"> <li>• None</li> </ul>	<b>Scaling and International</b> <ul style="list-style-type: none"> <li>• None</li> </ul>
<b>Angels / Angel Groups</b> <ul style="list-style-type: none"> <li>• Business Alliance of Kosovo</li> </ul>	<b>VCs</b> <ul style="list-style-type: none"> <li>• South Central Ventures</li> </ul>	

# WB 6 Ecosystem Mapping\* – Montenegro

## Select SSOPs

	No. of start-ups	Density
Country	60	90/Mill
Podgorica	32	173/Mill

---


**Funding**

• Overall Funding (last 30 months)	\$9,920,000	100%
• Early Stage (Seed)	\$1,120,000	12%
• Series A	\$8,800,000	88%
• Later Stage (A+ onward)	0	0%

**Notable rounds**

- Donde Search raised a Series A round of \$6.5 million, but has since relocated to NYC

Source: Dealroom, PitchBook, Crunchbase

 **Successful start-ups leave the country and build up abroad, as there are no loans or investors locally for innovative ideas.**

*(SSOP leader)*

<b>Ecosystem Agencies &amp; Keystone Teams</b> <ul style="list-style-type: none"> <li>• Tehnopolis</li> </ul>	<b>Education / Training</b> <ul style="list-style-type: none"> <li>• Boostmeup</li> <li>• Digitalizuj.me</li> <li>• Digitalna Fabrika</li> <li>• Science Technology Park Montenegro</li> <li>• Tehnopolis</li> </ul>	<b>Workspaces</b> <ul style="list-style-type: none"> <li>• Balkanoffice</li> <li>• BSC Bar</li> <li>• Innovation Center Coworking Space</li> <li>• Playworking</li> <li>• Science Technology Park Montenegro</li> <li>• Tehnopolis</li> </ul>
<b>Incubation</b> <ul style="list-style-type: none"> <li>• BSC Bar</li> <li>• Science Technology Park Montenegro</li> <li>• Tehnopolis</li> </ul>	<b>Acceleration &amp; Growth</b> <ul style="list-style-type: none"> <li>• None</li> </ul>	<b>Scaling and International</b> <ul style="list-style-type: none"> <li>• None</li> </ul>
<b>Angels / Angel Groups</b> <ul style="list-style-type: none"> <li>• Montenegrin Business Angel Network</li> </ul>	<b>VCs</b> <ul style="list-style-type: none"> <li>• South Central Ventures</li> <li>• ICT Hub Venture</li> </ul>	

# WB 6 Ecosystem Mapping\* – North Macedonia

## Select SSOPs

	No. of start-ups	Density
Country	52	24/Mill
Skopje	45	82/Mill

---


**Funding**

• Overall Funding (last 30 months)	\$9,500,000	100%
• Early Stage (Seed)	\$950,000	10%
• Series A	\$8,550,000	90%
• Later Stage (A+ onward)	0	0%

**Notable rounds**

- Ozzi Food raised \$8.8 Million, but has since moved its headquarters to the US.

Source: Dealroom, PitchBook, Crunchbase

 **People are not open to sharing about their business, they don't network because there is no culture to approach unknown people.**

*(SSOP leader)*

<b>Ecosystem Agencies &amp; Keystone Teams</b> <ul style="list-style-type: none"> <li>• Startup Macedonia</li> <li>• Macedonian Fund Of Innovation</li> </ul>	<b>Education / Training</b> <ul style="list-style-type: none"> <li>• ARNO</li> <li>• CEED Hub</li> <li>• Social Impact Lab</li> <li>• Social Innovation Lab</li> <li>• UKIM Accelerator</li> <li>• YES Incubator</li> </ul>	<b>Workspaces</b> <ul style="list-style-type: none"> <li>• Coffice</li> <li>• Public Room Skopje</li> <li>• INNOFEIT</li> <li>• SEEU Tech Park</li> <li>• Skopje Lab</li> <li>• YES Incubator</li> </ul>
<b>Incubation</b> <ul style="list-style-type: none"> <li>• ARNO</li> <li>• Seavus Incubator</li> <li>• SEEU Tech Park</li> </ul>	<b>Acceleration &amp; Growth</b> <ul style="list-style-type: none"> <li>• None</li> </ul>	<b>Scaling and International</b> <ul style="list-style-type: none"> <li>• None</li> </ul>
<b>Angels / Angel Groups</b> <ul style="list-style-type: none"> <li>• WB Angels Investment Fund</li> <li>• Macedonia 2025</li> </ul>	<b>VCs</b> <ul style="list-style-type: none"> <li>• South Central Ventures</li> <li>• SEAF</li> </ul>	

# WB 6 Ecosystem Mapping\* – Serbia

## Select SSOPs

	No. of start-ups	Density
Country	357	51/Mil
Belgrade	197	143/Mil

---

**Funding**

- Overall Funding (last 30 months) \$62,957,000 100%
- Early Stage (Seed) \$20,460,000 32%
- Series A \$17,187,000 27%
- Later Stage (A+ onward) \$25,200,000 40%

**Notable rounds**

- Frame raised \$16 million in funding
- Mobile Go, a gaming start-up focusing on mobile gaming, raised \$9 million.

Source: Dealroom, PitchBook, Crunchbase

 **There is a great need for regional collaboration, probably even more important now as we deal with the Pandemic and recession.**

*(SSOP leader)*

<b>Ecosystem Agencies &amp; Keystone Teams</b> <ul style="list-style-type: none"> <li>• Center for Technology Transfer</li> <li>• Digital Serbia Initiative</li> <li>• ICT Hub Venture</li> </ul>	<b>Education / Training</b> <ul style="list-style-type: none"> <li>• Business Incubator Novi Sad</li> <li>• Center for Technology Transfer</li> <li>• Digital Serbia Initiative</li> <li>• Founder Institute</li> <li>• Startit</li> <li>• Science Technology Park Belgrade</li> </ul>	<b>Workspaces</b> <ul style="list-style-type: none"> <li>• Business Incubator Novi Sad</li> <li>• Impact Hub</li> <li>• In Centar</li> <li>• Nova Iskra</li> </ul>
<b>Incubation</b> <ul style="list-style-type: none"> <li>• Business Incubator Novi Sad</li> <li>• Nordeus Hub</li> <li>• Science Technology Park Belgrade</li> <li>• STP Niš</li> <li>• STP Čačak</li> <li>• Serbia Start Up</li> </ul>	<b>Acceleration &amp; Growth</b> <ul style="list-style-type: none"> <li>• None</li> </ul>	<b>Scaling and International</b> <ul style="list-style-type: none"> <li>• None</li> </ul>
<b>Angels / Angel Groups</b> <ul style="list-style-type: none"> <li>• Association of Business Angels of Serbia</li> </ul>	<b>VCs</b> <ul style="list-style-type: none"> <li>• South Central Ventures</li> <li>• ICT Hub Venture</li> </ul>	

# Background – The Ecosystem Lifecycle Model

## Size and Density



- Start-up ecosystem development is a complex and diverse process. As in ecology, ecosystems go through different stages, each with different characteristics.
- The “Ecosystem Lifecycle” model makes it clear how an ecosystem compares with others and which measures can be taken most effectively and effectively.
- In our experience with many cities around the world, policy makers often seek to implement a flurry of activity in short time frames; which are mostly not well adjusted to the needs of an innovation ecosystem at its stage of development.
- The “Ecosystem Lifecycle” model makes it clear how an ecosystem compares with others and which measures can be taken most effectively and effectively.
- We divide ecosystems into four development phases: Activation, Globalization, Attraction and Integration. Each phase has very different characteristics and impulses that enable the ecosystem to develop from one level to the next. The more start-ups and resources are in an ecosystem (y-axis) and the more experience (x-axis), the more advanced the ecosystem is in its development.

## Status WB6: Activation Ecosystems



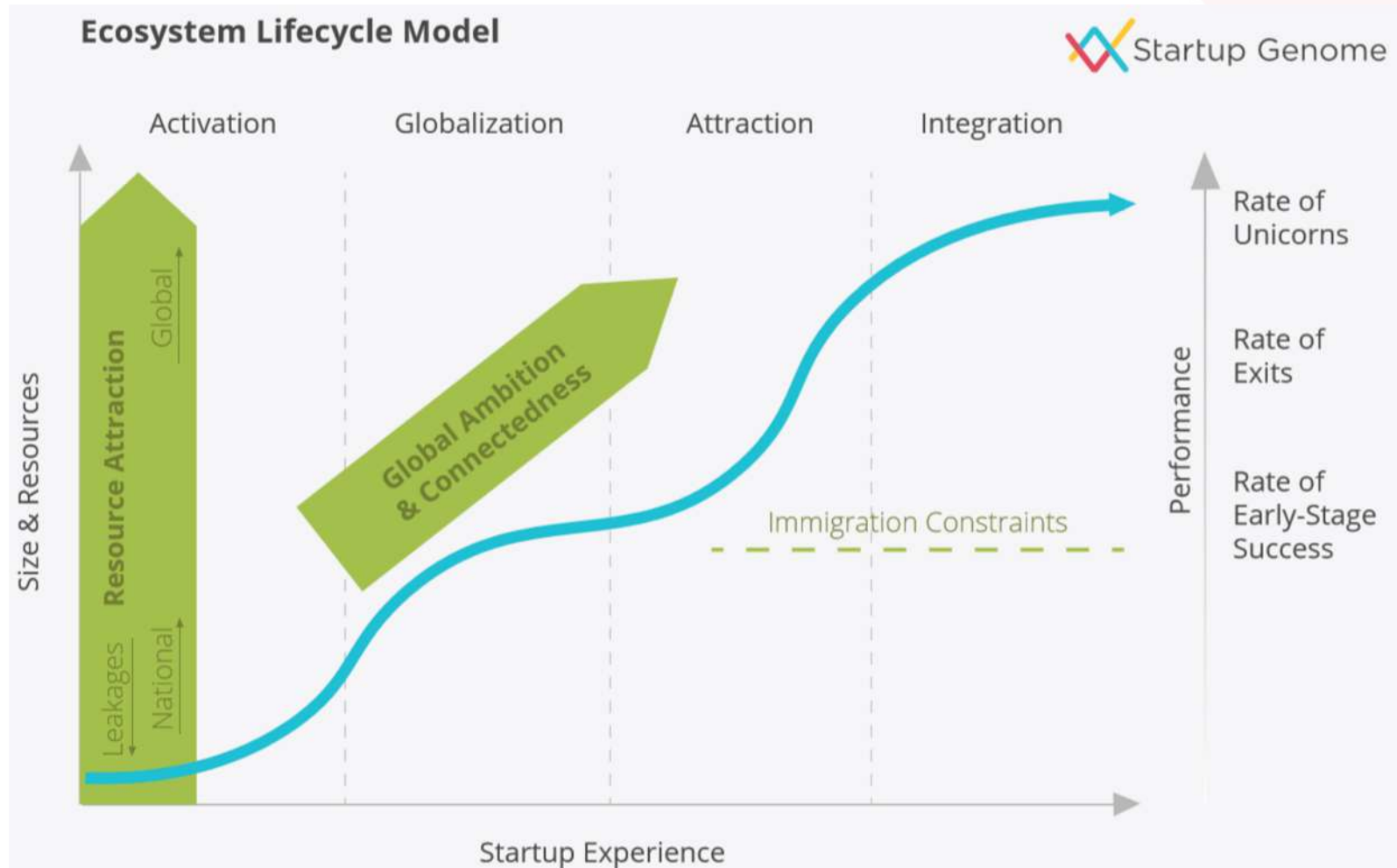
- The Western Balkan countries have all sought to develop their ecosystems over the last few years, resulting in the creation of tell-tale signs of early development of software-based start-ups, workspaces and investment opportunities.
- However, though individual clusters have developed, they remain quite small and do not engage and interact with one another on a concerted basis. With low start-up density in all countries, the region is placed firmly in the Activation stage. This placement will inform the discussion throughout this document.
- Among all countries, Serbia is the largest and most developed ecosystem ready to work towards developing into late Activation Phase and Entering Globalization Phase by 2026.
- North Macedonia has also exhibited promising growth and development and may also aspire to reach Globalization phase in the coming years.



# The Lifecycle brings focus onto the Right Actions at the Right Time

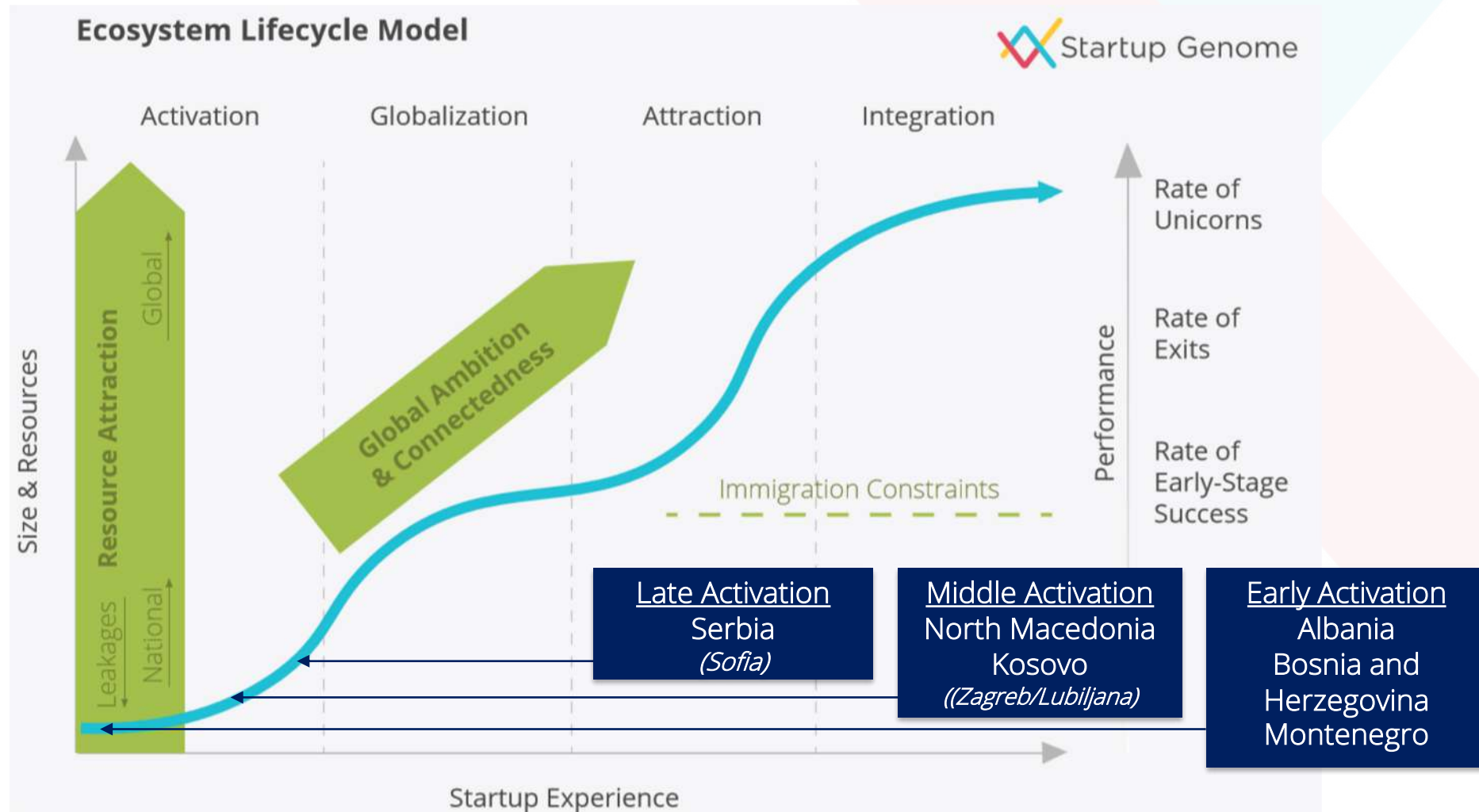
Phase	Activation	Globalization	Attraction	Integration
<b>Characteristics</b>	<ul style="list-style-type: none"> <li>• Low start-up Output</li> <li>• Limited start-up Experience</li> <li>• Low Early-stage funding</li> </ul>	<ul style="list-style-type: none"> <li>• start-up Output of 800-1200 (depending on population)</li> </ul>	<ul style="list-style-type: none"> <li>• start-up Output larger than 2,000</li> <li>• Produces <i>a series</i> of globally impressive exit triggers</li> <li>• Very few success factor gaps</li> </ul>	<ul style="list-style-type: none"> <li>• start-up Output larger than 3,000</li> <li>• High production of globally impressive exit triggers</li> <li>• No success factor gaps</li> </ul>
<b>Strategy focus</b>	<ul style="list-style-type: none"> <li>• Building Local Community</li> <li>• Developing higher start-up Quality</li> <li>• Address Funding Gaps</li> <li>• Creating first generation of success stories</li> <li>• Initiating culture change</li> </ul>	<ul style="list-style-type: none"> <li>• Growing start-up experience creates a series of nationally or regionally impressive exits</li> </ul>	<ul style="list-style-type: none"> <li>• Addressing remaining gaps selectively</li> </ul>	<ul style="list-style-type: none"> <li>• Continue to ensure the easy movement of start-up resources across global borders</li> <li>• Continued drive for highly qualified talent immigration</li> </ul>
<b>Examples</b>	<ul style="list-style-type: none"> <li>• Belgrade</li> <li>• Bahrain</li> <li>• Quebec City, Canada</li> <li>• Frankfurt, Germany</li> <li>• Manila, Philippines</li> </ul>	<ul style="list-style-type: none"> <li>• Barcelona, Spain</li> <li>• Seoul, South Korea</li> <li>• Sydney, Australia</li> <li>• Vancouver, Canada</li> </ul>	<ul style="list-style-type: none"> <li>• Amsterdam, Netherlands</li> <li>• Bangalore, India</li> <li>• Berlin, Germany</li> <li>• Tel Aviv, Israel</li> </ul>	<ul style="list-style-type: none"> <li>• Boston, USA</li> <li>• London, UK</li> <li>• New York City, USA</li> <li>• Silicon Valley, USA</li> </ul>

# SG's Ecosystem Lifecycle Model of Phase Identification: Where is the ecosystem versus the normal evolution?



1. Global Competition for Resources and Markets
2. Economic Impact = Production of scale-ups
3. Grows with ecosystem size and experience

# The Western Balkans is in the Activation phase: few start-ups and ecosystems resources



# Definitions of Key Terms

## Ecosystem Lifecycle Phases

**Activation Phase** - A start-up phase for an ecosystem with limited start-up Experience (founder know-how, experienced investors, advisors/mentors, and community behaviors that support start-up success), low Start-up Output of around 1,000 or fewer start-ups, and challenges like resource leakages to later-stage ecosystems that make it difficult to grow.

**Globalization Phase** - A start-up ecosystem enters this phase from Activation once increased Start-up Experience has led to the production of a series of regionally impressive "Triggers." Triggers include achieving more than \$100 million exits (higher in leading nations), an Output of 800 to 1,200 start-ups has been reached (depending on population), and a series of exits trigger national (or regional) resource attraction (start-ups, entrepreneurs, talent, investors) from earlier-phase ecosystems, but still leaks resources to top global ecosystems.

**Attraction Phase** - A start-up ecosystem enters this phase from Globalization once there are more than 2,000 local start-ups (depending on population), a series of globally impressive unicorns and exits above \$1 billion (higher in leading nations) producing Global Resource Attraction, and very few Success Factor gaps remain.

**Integration Phase** - A start-up ecosystem enters this phase from Attraction once there are more than 3,000 start-ups and Global Resource Attraction produces a high and self-sustainable degree of Global Connectedness and flow of knowledge into the ecosystem. This attraction and information access keeps start-ups integrated in the global fabric of knowledge and able to produce leading business models with the skills necessary to achieve high Global Market Reach.

# Definitions of Key Terms

## Success Factors Measured

**Performance-** A combination of leading, lagging, and current indicators that capture economic outcomes in a start-up ecosystem.

**Funding-** The level and growth of early-stage funding, looking at both access and quality.

**Resource Attraction-** The gravitational pull of an ecosystem in drawing in entrepreneurs and start-ups from elsewhere.

**Start-up Experience-** The depth and diversity of the pool of prior start-up experience in an ecosystem.

**Talent-** Measures the accessibility, quality, and cost of software engineering expertise.

**Founder-** success factors related to the start-up founder, under his or her control, or internal to the start-up as opposed to external (a function of the ecosystem)

**Founder DNA-** The background, experience, ambition, and motivation of local founders.

**Local Connectedness-** A multi-variable assessment of the local community, including sense of community, relationships, and collisions between founders, investors, and experts.

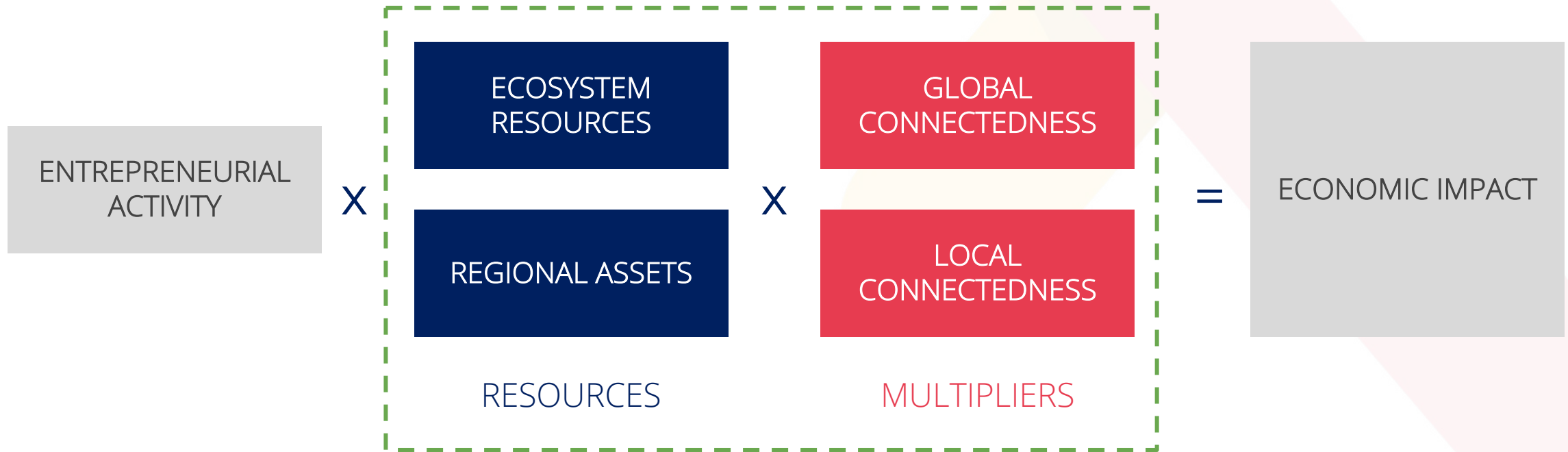
**Sense of Community Index-** a sub-factor of Local Connectedness capturing the degree to which founders informally receive help from investors, experts, and fellow founders.

**Number of Relationships Between Founders-** number of quality relationships between local founders, where they know each other and can call upon the other for help “this week”.

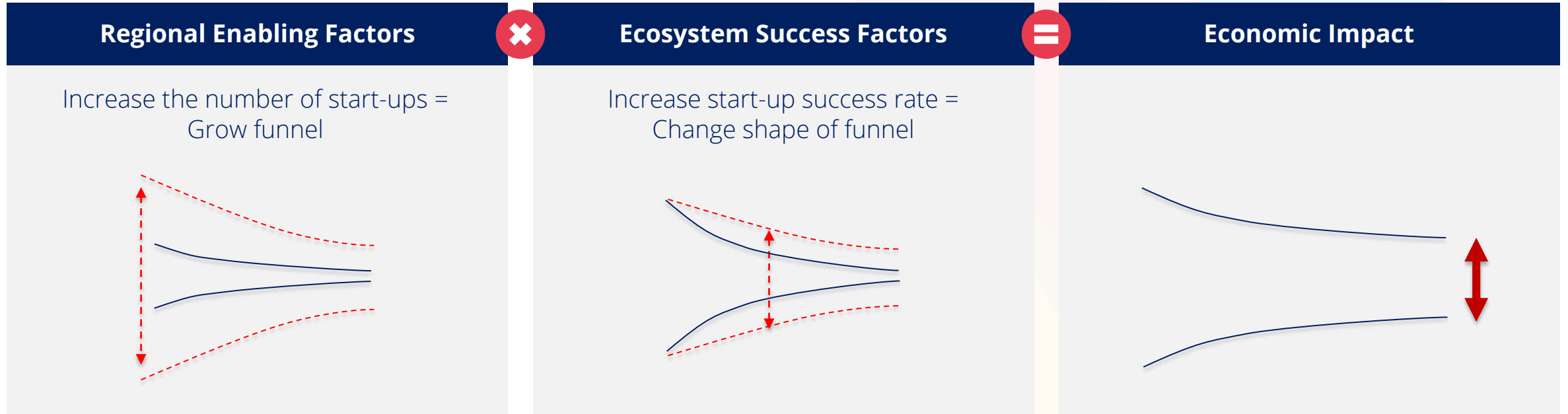
# The New Model of Economic Development

## *start-up Genome's Ecosystem Development Model*

From Lifecycle to Policy: Because each Ecosystem Lifecycle phase faces different challenges, and because there is always more to do than can be done with scarce resources, local leaders must focus their actions and policies on the issues that will have the most impact. Our assessment for the Western Balkans will identify the most relevant success factor gaps and seek to guide the discussion.



# Enabling Factors vs. Success Factors



Growing the funnel: Increasing the number of start-ups being founded will significantly increase the chances of success in later stages (a function of sheer numbers). More start-ups directly translate into more chances of success.

Widening the shape of the funnel: We need to improve the conditions for young start-ups to successfully grow and to successfully master the initial phases of their scaling journey (a function of start-up quality and respective support mechanisms).

Creating economic impact: Combined, the above actions will result in an increasingly successful ecosystem, with few but thriving scale-up companies that create economic impact and that serve as role models for local ecosystem participants. These scale-ups will represent the largest economic and job creation impact that could ultimately be created.



# What makes a Tech start-up ecosystem become an engine of economic growth and job creation?



1. Size: Bigger is better
2. Local Connectedness = Quality of the local community
3. Funding = Availability of funding and funding runway for founders
4. Global Connectedness = Global Knowledge + Potential
5. Global Market Reach = Realize Global Potential
6. Resources, Infrastructure and Policies





# Background – Exponential Growth in Start-up Ecosystems

## Size and Exponential Growth Effects

- As exemplified in the previously shown graph, growth as a function is exponential.
- The economic value - here measured in ecosystem valuation - created by a start-up ecosystem accelerates as the ecosystem grows.
- Increases in the number of start-ups active in an ecosystem will have several positive effects that cumulatively result in the exponential growth function.
- These effects include the sharing of knowledge, the quality of a local community and the increasing availability of supporting initiatives, programs and funding sources.
- It is worth noting that data clearly show that there is a tipping point at a few hundred start-ups where the emergence of a scale-up segment can be expected. It is at this point where ecosystem value and economic impact start to dramatically increase.

## Growth effects in the Western Balkans

- As previously stated, the individual clusters present in the WB6 are early Activation Stage ecosystems and have a low start-up density.
- At its current size, the start-up ecosystems of the WB6 are too small to create exponential growth effects.
- If we combine our ecosystems, we may well reach the stage where exponential effects can come into force; the effect could be huge and makes a strong case for WB6 collaboration.
- Why? We believe it is important to realize that a certain critical mass is required for the collision of ideas and concepts but also and importantly to put in place programs for later development phases and be more selective regarding access to later stage support and funding.
- Decisive action will be required to develop the WB6 towards this trigger point and in an accelerated time frame.

# Ecosystem Success Factor Model

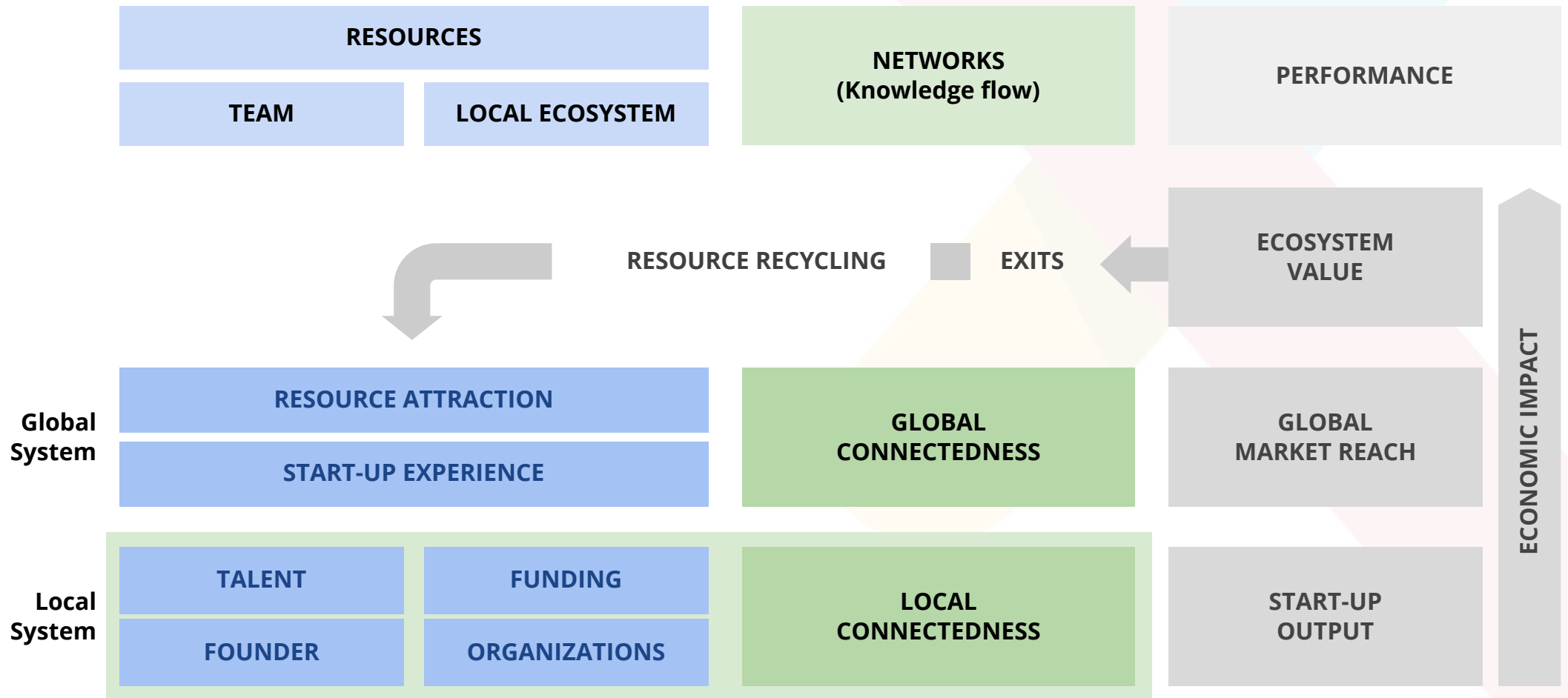
## Local and Global System of Success Factors

- Success Factors - Startup Genome's principal analytical tool. Our model measures different dimensions of what supports the performance of local start-ups
- We look at nine factors for our rankings: one measuring actual performance, with eight Success Factors associated with performance, each comprised of sub-factors and metrics.
- The model differentiates between two systems, one local and one global.
- The local system - including factors such as Talent, Funding, Support Organizations and Culture – can be influenced directly and is subject to public and private policy action.
- The global system describes the effects that can result from accessing the knowledge, talent and funding that is available internationally. It also assesses the ability of an ecosystem to export to international markets, a factor that is critical for scaling success.

## Priorities for the Western Balkan Region

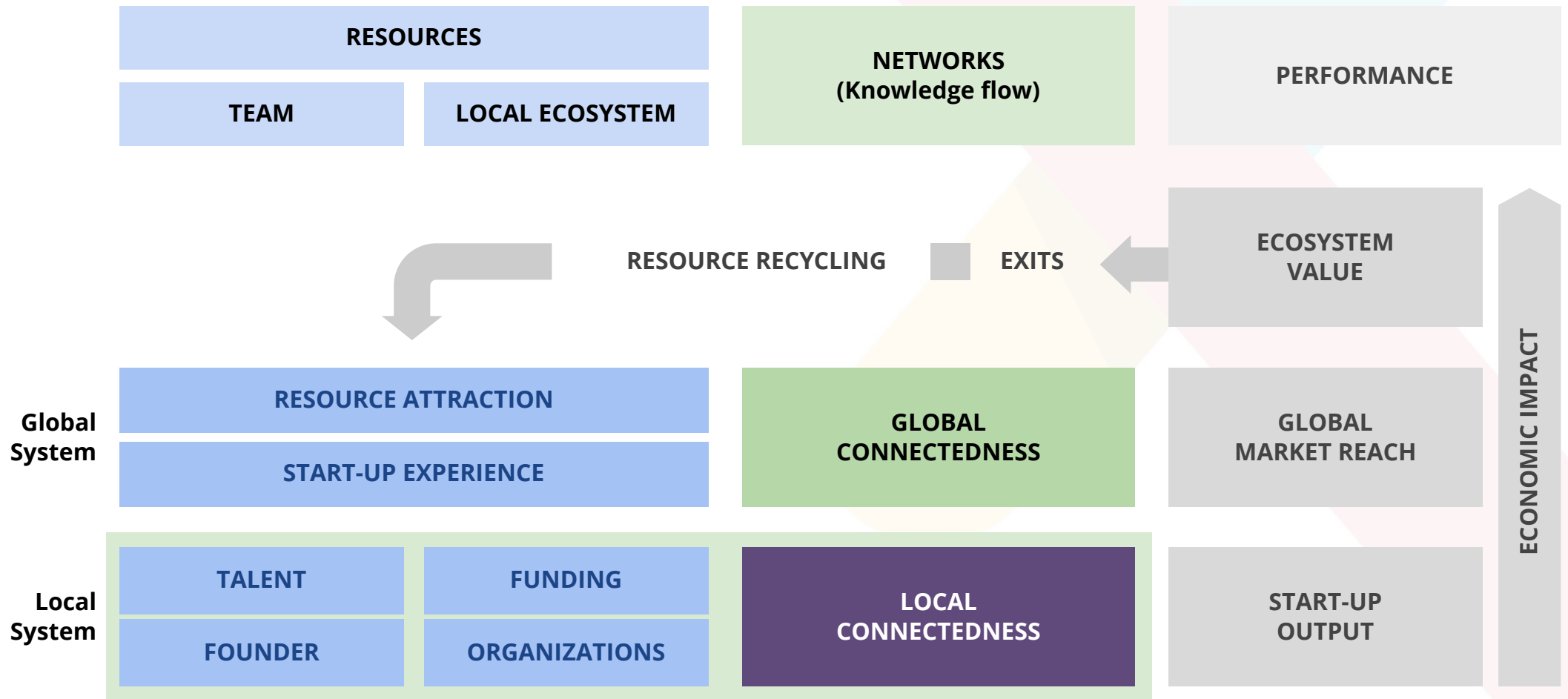
- The ecosystems of the Western Balkans are characterized by a lack of Local Connectedness, Global Connectedness and Funding.
- Cultural limitations, a donor-heavy environment and underutilization of diaspora networks all contribute to these shortages, which shall be discussed.
- The Local System deserves the highest priority for the WB6.
- At its very early stage of development, it is imperative that local resources and success factors are analyzed and – where found lacking – further developed.
- Only once the local system has been properly supported will the ecosystem be able to start producing companies that are competitive enough to export and to attract international capital.
- This seems important as, in the absence of local experience, tapping international knowledge in technology and business model design as well as mentorship capabilities will provide opportunities to overcome local system limitations quicker and more effectively.

# Startup Genome Success Factor Model



# I. Success Factor Model

## Local Connectedness



# I. Local Connectedness – The quality of the local community

Success Factor of Local Connectedness is comprised of following sub-factors

1



## Sense of Community

- Captures the degree to which founders informally – without financial incentive - receive help from investors, experts, and fellow founders
- Beyond relationship building, a healthy sense of community fostered by founders helping each other is highly correlated with overall ecosystem performance

2

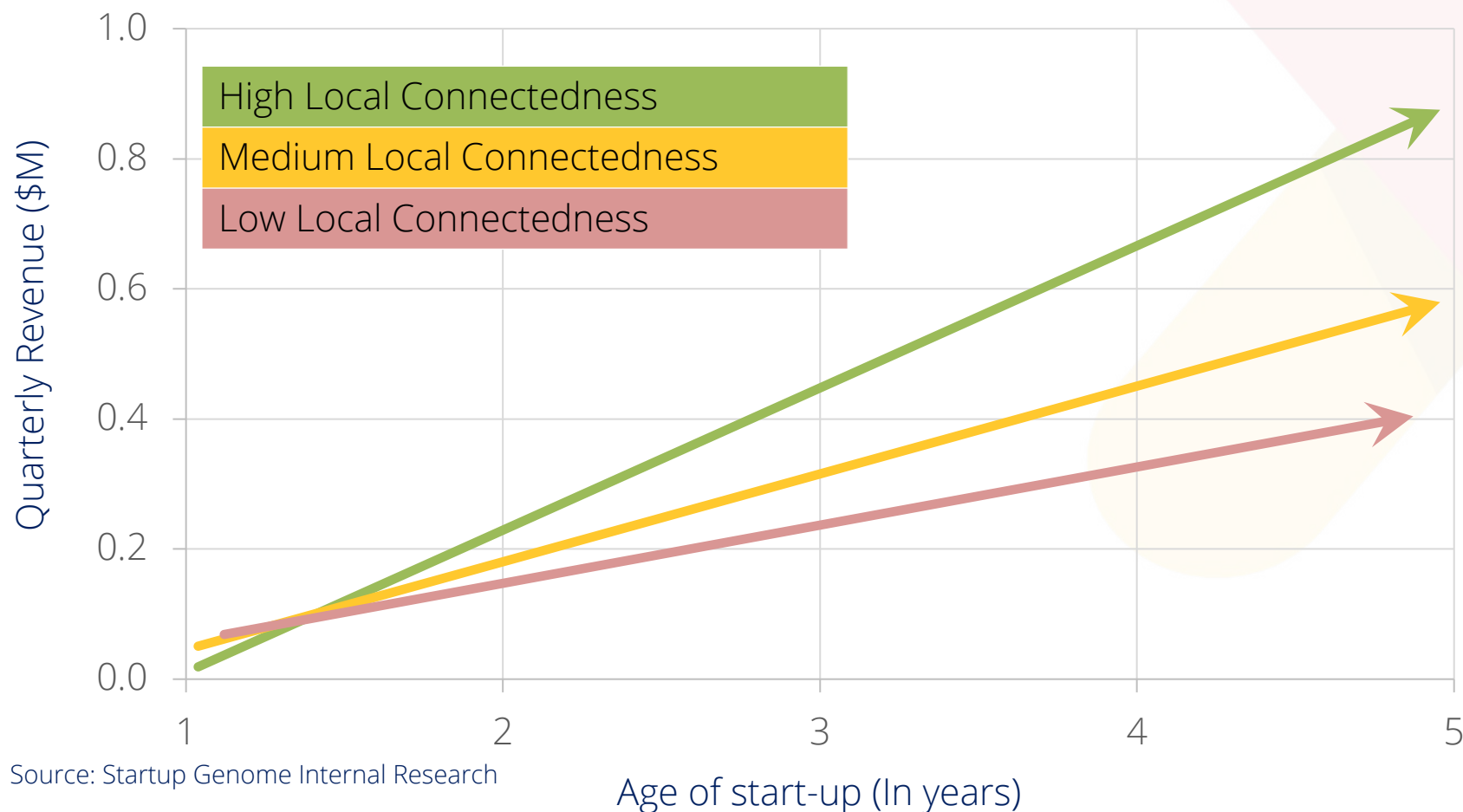


## Local Relationships

- Captures the number of quality relationships between founders and other founders, investors, and experts (Investors here do not include investors in their own start-up)

# I. Start-ups with higher Local Connectedness grow faster and have potential for bigger exits

Quarterly Revenue vs Age of start-up



Source: Startup Genome Internal Research

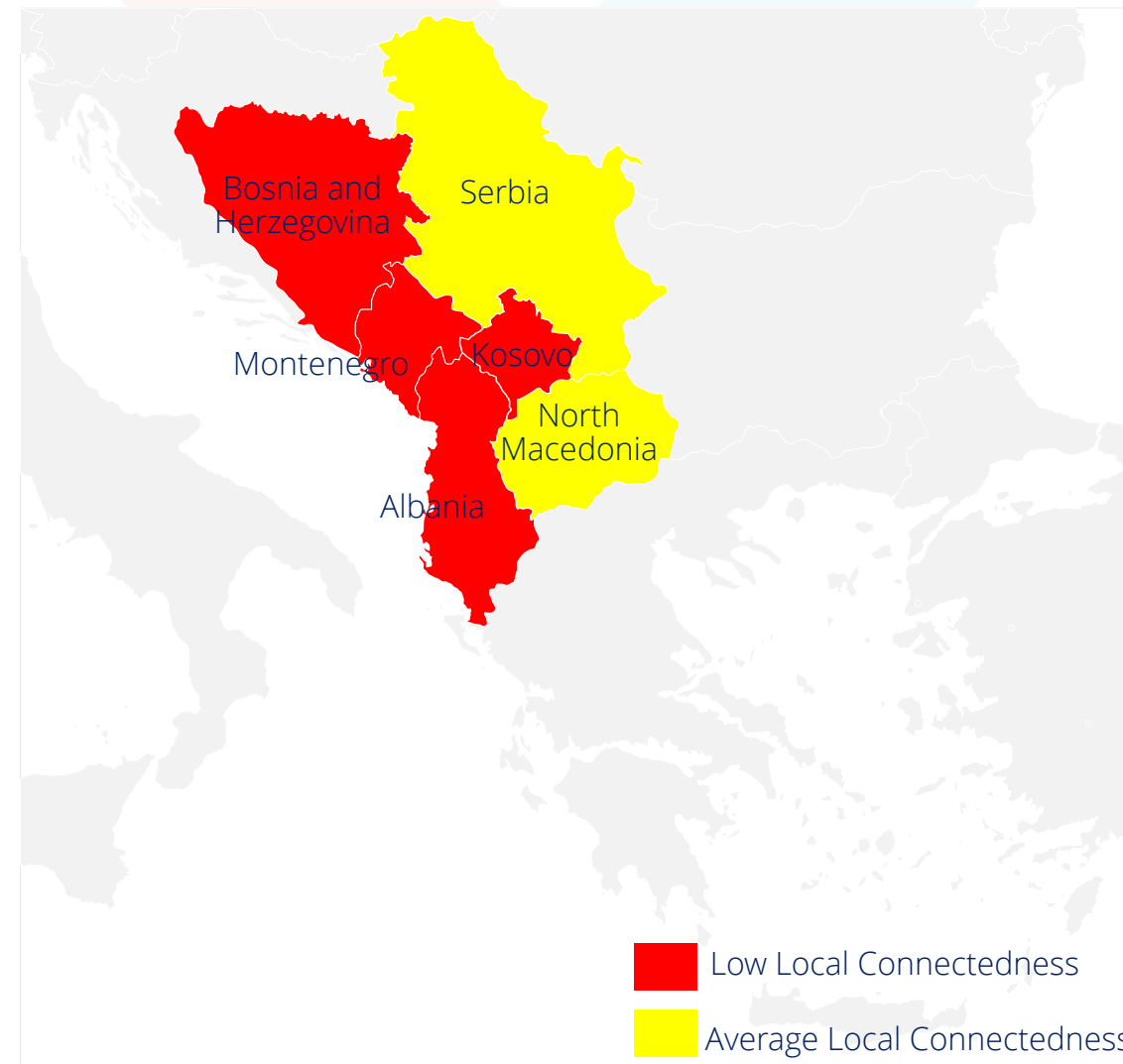
**>2x** revenue growth for start-ups with high vs. low Local Connectedness

# I. Local Connectedness across the Region

## Description

- No single ecosystem demonstrates sufficient Local Connectedness.
- Though there are many actors present in each country focusing on increasing start-up output, connections between founders as well as founder connections to experts and investors remain low compared to other Activation Stage ecosystems.
- Serbia and North Macedonia are the furthest along in creating Local Connectedness, as is evident from local SSOPs taking keystone roles.

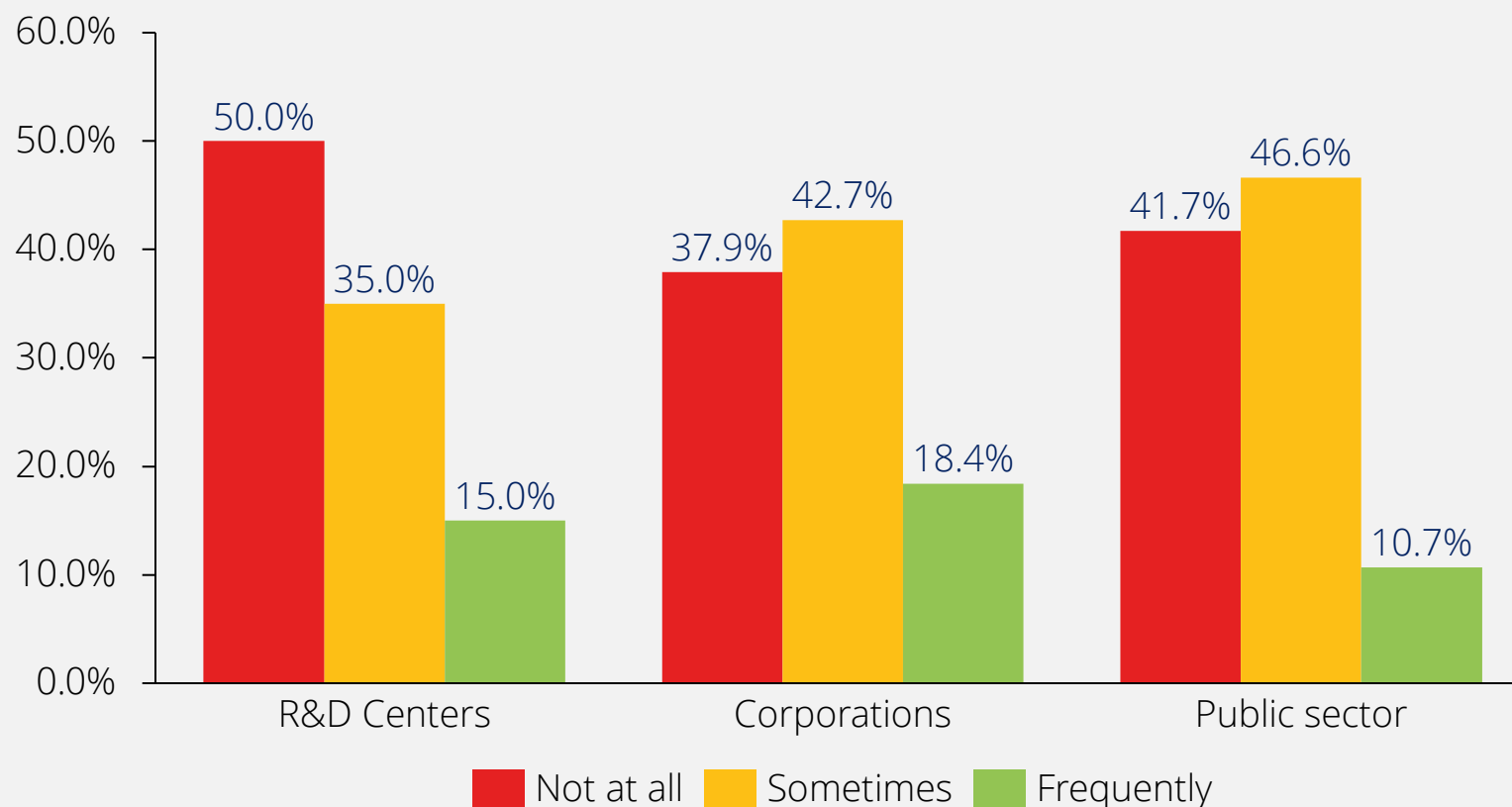
*Based on Qualitative interviews with key stakeholders across the region and desk research.*





# I. Local Connectedness – The need for Culture Change

Do you frequently work with other members of the ecosystem, e.g., larger, R&D facilities, larger companies and public-sector agencies?

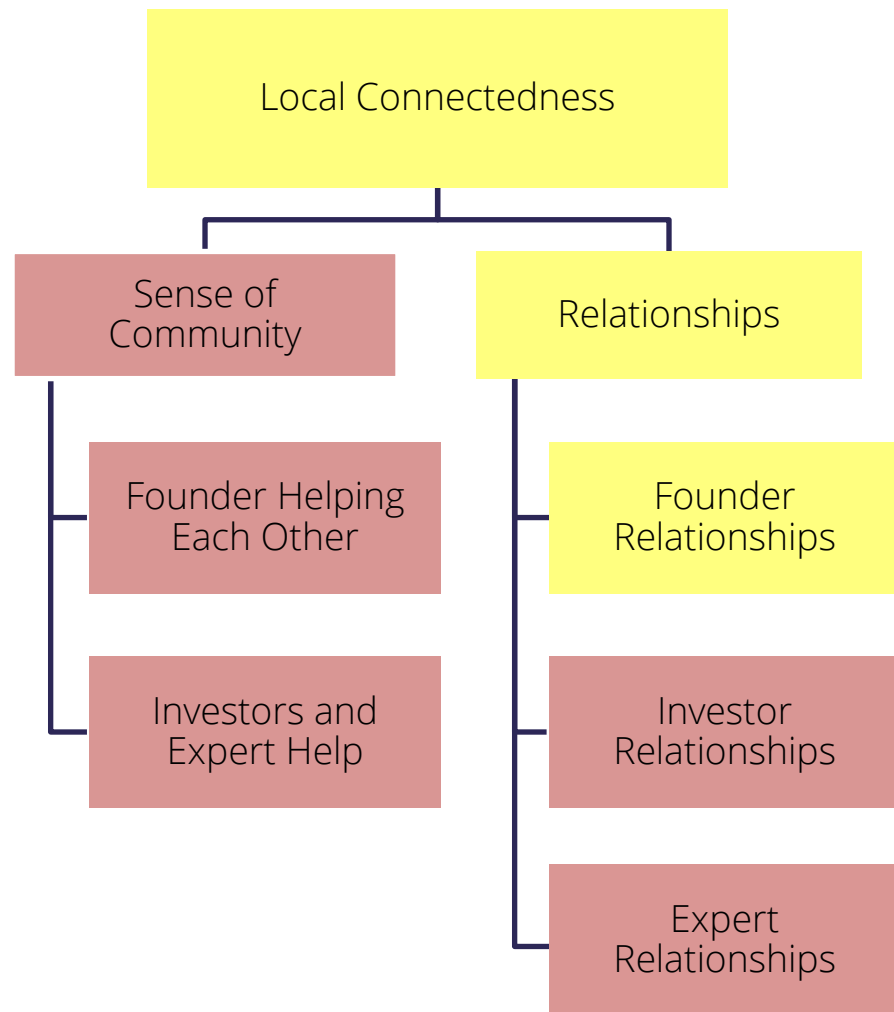


Source: WB6 Ecosystem Assessment Primary Survey, March 2018, Technation UK

## Themes from Qualitative interviews

- Collaboration is hindered by a lack of trust between participants directly. This negatively impacts the ability to exchange ideas and learn from each other
- Mechanisms and policies are required to develop local community and a more liberal exchange of ideas

# I. WB6 scores relatively low on Local Connectedness which is normal for activation phase ecosystems



## Findings

- Sense of Community in WB6 is weak, which was frequently commented on as a cultural issue. Founders do not trust one another and avoid sharing information, collaborating or going beyond surface-level relationship building.
- Weak Local Connectedness is also a result of historical and cultural divisions, as well as a lack of entrepreneurial mindset from older generations.
- Founders in WB6 do not have relationships with investors, a symptom of a donor heavy environment. Uniquely, many WB6 founders are more geared towards receiving grants than raising private capital, hamstringing local investment readiness.
- While interviewing key stakeholders, we found that founders don't have much help and assistance from experts, investors or other founders.
- Going forward, assistance and leveraging knowledge needs to be more institutionalized in order to flesh out a deeper capacity for mentorship and peer-to-peer assistance in the local ecosystem.

# I. Keystone Teams have helped create some of the greatest ecosystem successes across the world

Developing a strong start-up community requires a core team of action-oriented and supportive entrepreneurs and entrepreneurial-minded people. We call it a Keystone Team

What local partners represent potential Keystone team?

## Stockholm: STING

Founded in 2002 and creating the greatest start-up ecosystem success story

## Helsinki: Maria

In 2014 entrepreneurs started Maria, Slush, etc.: ranked 31 and creating large exits with <750 start-ups

## Potential WB6 Keystone Teams

- Startup Macedonia
- DSI
- ICT Hub Venture
- ICK
- Macedonia FITD
- Ministry of Programming
- EU for Innovation Albania

## Amsterdam: Startup Amsterdam

Started in 2014 and codified and improved the model of STING and others for taking leadership and building momentum

## Waterloo: Communitech

Founded in 1997 and led to RIM (Blackberry) and many others

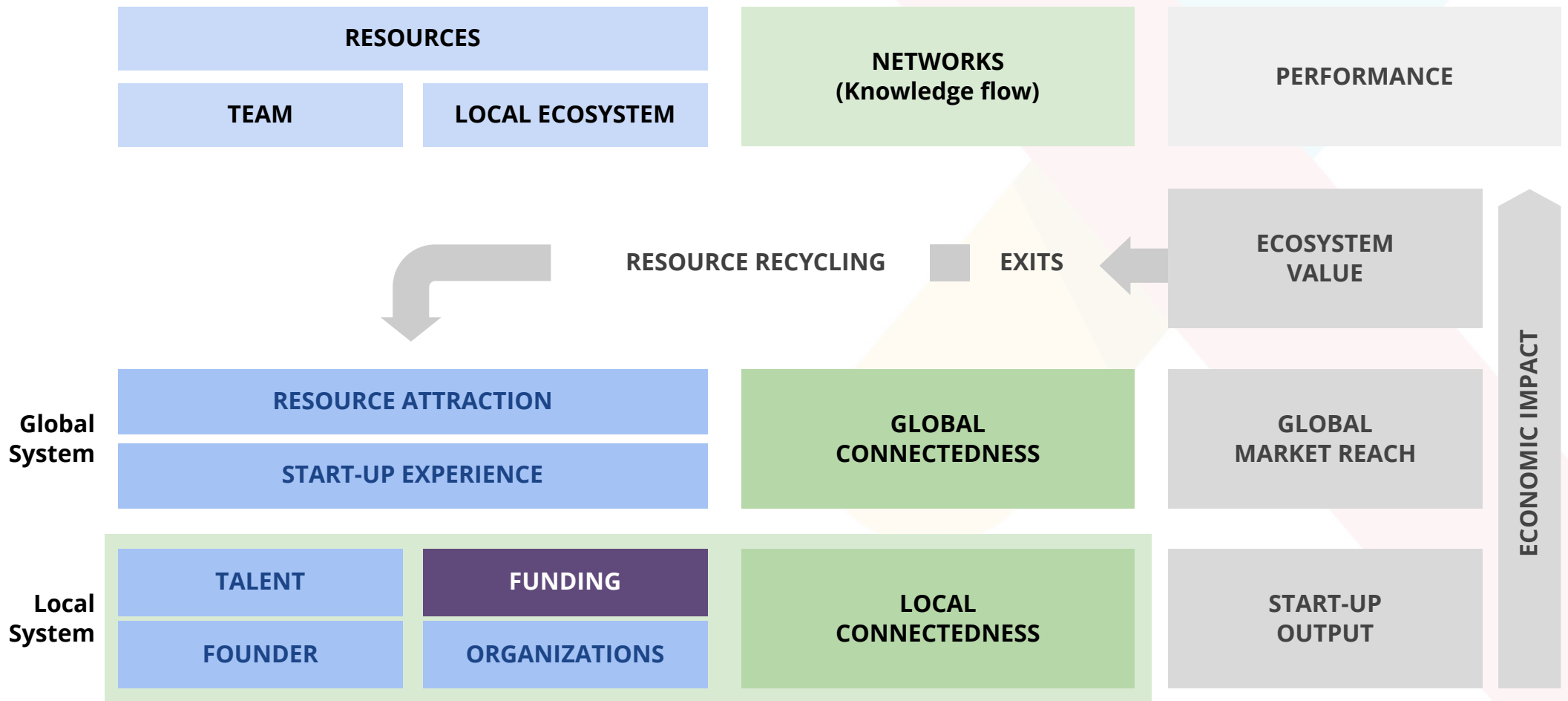
**A 'Keystone Team' will create an exciting start-up community and culture, attracting millennials and engaging universities**

# Table of Contents

- 1 Introduction & Scope
- 2 Status Quo
- 3 SSOP: Mapping Start-up Support Programs and Identifying existing Gaps
- 4 Funding: Evaluating Early-Stage Funding
- 5 Sectors: Feasibility of Smart Specialization
- 6 Scenario 2026: Development Potential and Investment Needs
- 7 Other collaboration opportunities
- 8 Ecosystem Development Roadmap

# II. Success Factor Model

## Funding



## II. Gaps in Early-Stage Funding in the WB6 region hinder the growth of the Start-up ecosystem

### The importance of Early-Stage Funding on start-up Ecosystems

#### Entrepreneurship Propensity and Culture

- Funding limitations have a negative effect on younger ecosystems with far-reaching effects on propensity for undertaking entrepreneurship. Limited funding leads to limited success stories
- An overreliance on bootstrapping also disincentivizes potentially talented founders - especially those from lower socioeconomic backgrounds - to take the risk of founding a company

#### Impact on start-up Growth and Competitiveness

- Funding limitations typically result in founders aiming for revenue prematurely, having to rely on under-developed Minimal Viable Products and less competitive commercial concepts
- Bootstrapped start-ups struggle to attract high-quality talent and invest in product development, creating unfavorable trickle-down effects across the ecosystem

### Early-Stage Funding in the WB6 Ecosystem

#### Limited Capital, especially from Private Sources

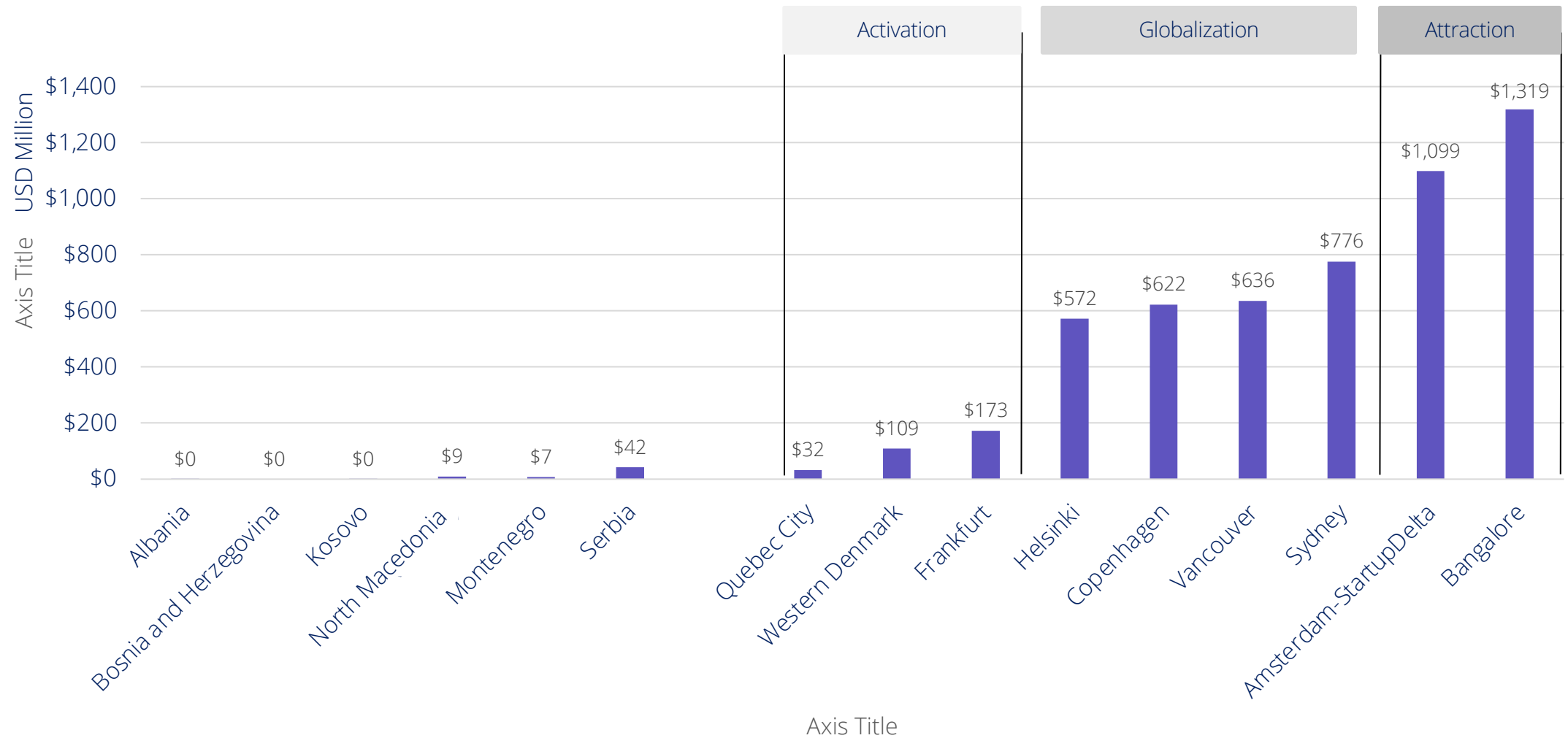
- Not only is there a shortage of seed-stage funding, but available capital is also usually tied to a donor organization and not a VC or Angel Investor
- Overreliance on donor funding results in gaps in development of entrepreneurial skills, with start-ups often tailoring activities and pitches to receive donor funding rather than developing MVPs or to seek revenue

#### Need to Facilitate Deal Flow

- Investors operating in the WB6 ecosystem highlighted gaps in quality deal flow within the ecosystem
- The limited number of connections between investors and local support programs (incubators/accelerators) in WB6 highlights potential for bolstering investor deal flow

# II. Access to Early-Stage Funding for start-ups is critical to advancing to subsequent phases of the Ecosystem Lifecycle

Total Early-Stage Funding from 2017 to 2019 H1 (30 months)



Early-stage Funding refers to the sum of pre-seed, angel, seed, and Series A rounds in the ecosystem  
 Source: PitchBook, Crunchbase, Dealroom, Startup Genome Data

# II. Building funding solutions and deal flow with existing SSOPs can bridge the angel and seed gap

List of Leading SSOPs in WB6

Startup Macedonia

ICT Hub Venture

EU for Innovation Albania

Ministry of Programming

Center for Technology Transfer Serbia

North Macedonia FITD

Swiss EP

ICK



*Connections to high-potential start-ups to support investor deal flow*

Investors

- Grants/Public money
- North Macedonia FITD
  - Innovation Fund Serbia
  - Swiss EP
  - GIZ
  - USAID
  - UKAID
  - UNDP

- Angels
- World Business Angels Investment Forum
  - Individual and smaller angel networks (currently not organized)

- VCs
- South Central Ventures
  - EBRD Star Ventures
  - Fil Rouge Capital



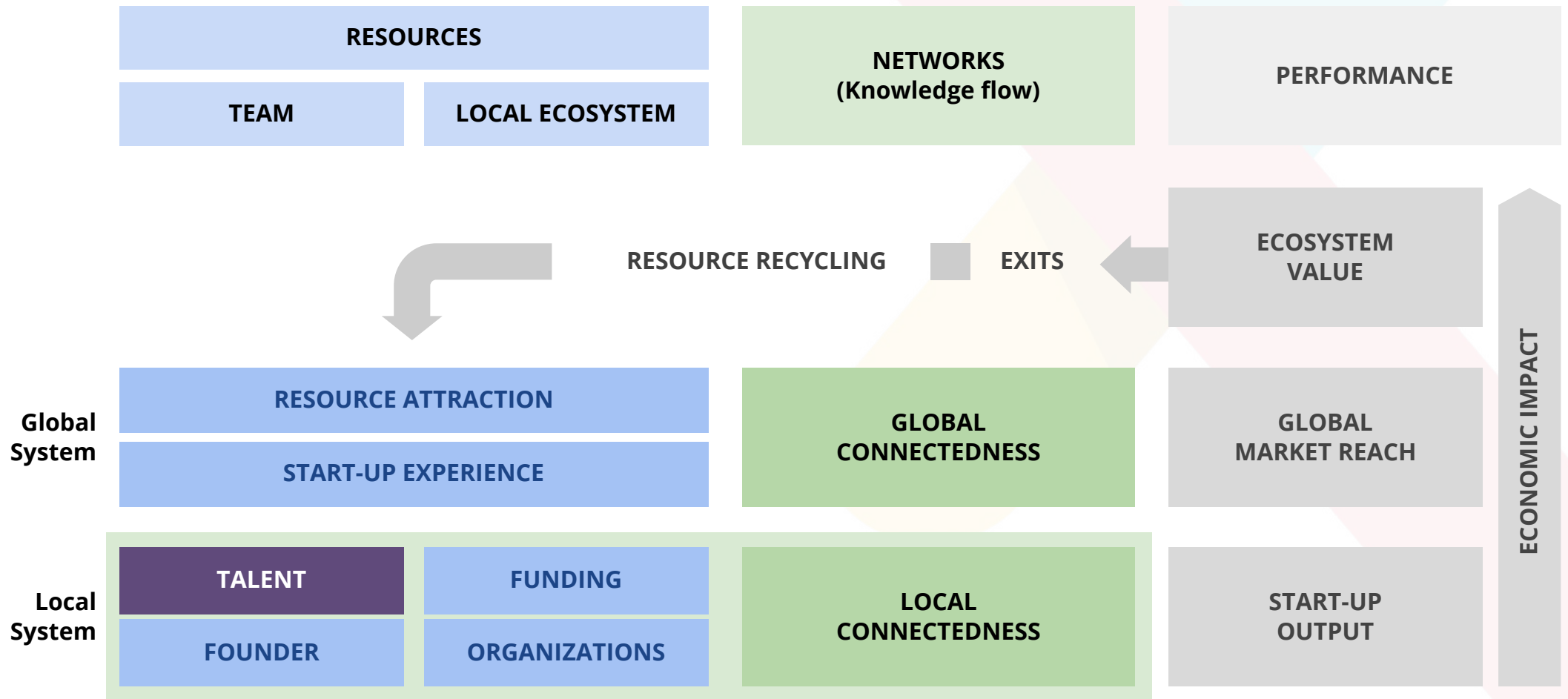
# II. Improving Access to Early-Stage Funding in the WB6 Region

- Access to funding – consistent in the number of rounds and average round size - remains a key priority for the ecosystem.
- We believe that at this nascent stage of ecosystem development, the activation of both public and private stakeholders is essential to provide a sustained supply of “Smart Money” to the ecosystem and to prepare for future growth.
- Given the small probability of success in the beginning, this will require public intervention, e.g., regarding incentives and investor de-risking.

<b>Pre-Seed Stage</b> 	<b>Investor Incentives</b> 	<b>Angels and Angel Groups</b> 	<b>Deal Flow</b> 
<ul style="list-style-type: none"> <li>• Government grants</li> <li>• Stipends and living allowances</li> <li>• Indemnification from tax obligations, licensing fees and social overheads</li> </ul>	<ul style="list-style-type: none"> <li>• Tax provisions for private investors, allowing to write off potential losses against other sources of income</li> <li>• Instruments that de-risk private investors, e.g., government/ donor support for Angel Side Car Funds</li> <li>• Direct matching of private investments and capped returns for the government/donors</li> <li>• Larger funding instrument, combining public and private investment and acting across pre-seed, seed and growth stage capital</li> </ul>	<ul style="list-style-type: none"> <li>• Identification, activation and training of potential Angel Investors</li> <li>• Angel Accreditation</li> <li>• Angel Group Formation</li> <li>• Activation of potential Angels in the Diaspora</li> </ul>	<ul style="list-style-type: none"> <li>• Stronger connectivity between ecosystem support organizations and Seed Stage Investors</li> <li>• Potential for technical assistance with leaders in support organizations for more “investable”</li> </ul>

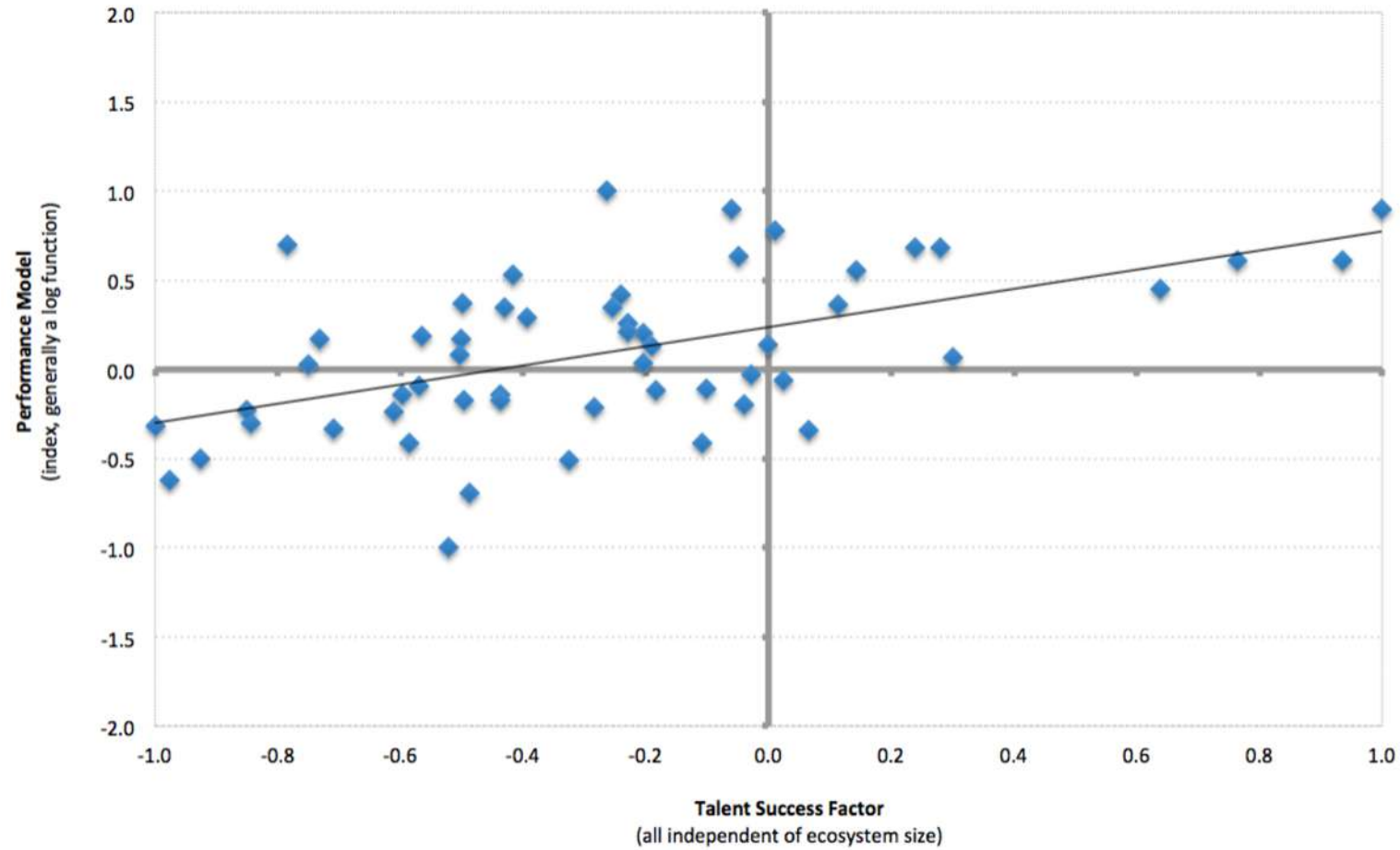
# III. Success Factor Model

## Talent



# III. Talent closely correlates with Ecosystem Performance

## Talent Success Factor vs. Ecosystem Performance



## III. While the WB6 Region produces a high quality of talent, they are very prone to leaving the ecosystem

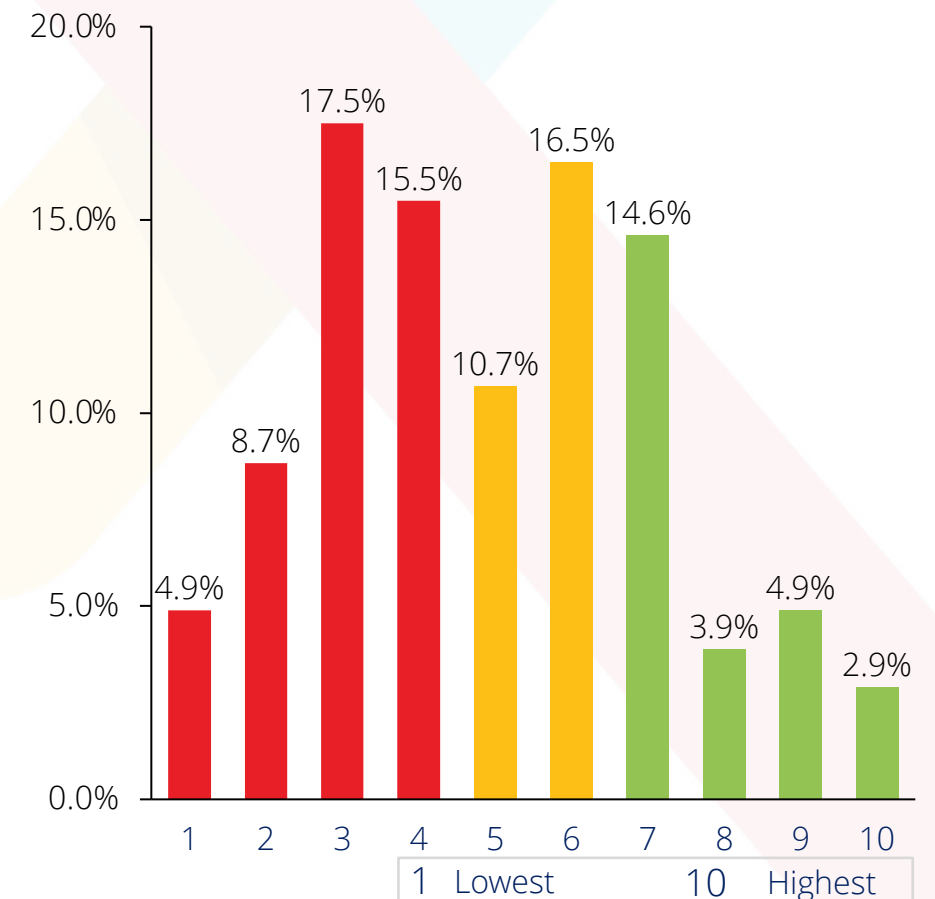
### Findings

- **Reasonably High Access to Talent:** Considerable availability of technical talent in the Western Balkans
- **Spillover Effects of the concentration of KPOs and BPOs:** The region benefits from the strong ICT Outsourcing industry

### Issues

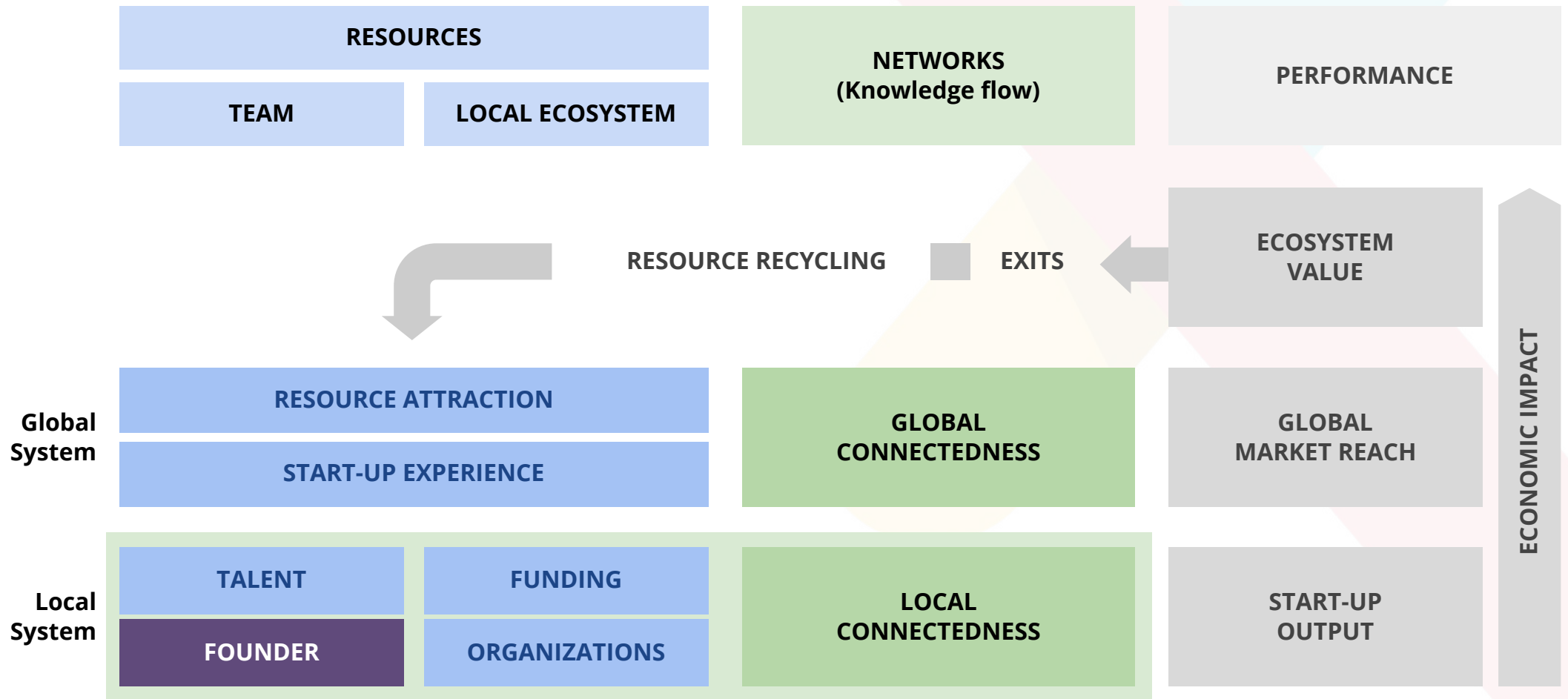
- **Brain Drain:** Lack of economic opportunities locally results in families sending their children abroad for university to seek employment elsewhere. Additionally, the most successful start-ups and founders often relocate abroad to benefit from a more advantageous business and funding environment, thus leading to a lack of an experienced group of serial entrepreneurs locally.
- **High Competition:** Talented technicians often work as outsourced contractors for Western European and North American IT companies or leave for better paid opportunity in the EU states.
- **Gaps in Managerial Talent:** While local support of technical skills is significant and results in many IT professionals, there is a clear gap in teaching managerial skills. There is a lack of growth talent locally, as most founders and start-ups present locally are less skilled (not the least due to a lack of experience in the ecosystem, e.g. serial founders).

### To what extent is recruiting skilled workers to your company / for start-ups a challenge?<sup>1</sup>



1. Primary Survey, Mar. 2018, Tech Nation UK.. A response of 10 indicates high availability of skilled workers

# IV. Success Factor Model Founder (DNA – Culture)



# IV. Overview of Key Founder Factors

**Key Founder Factors are comprised of the following sub-factors:**

## **Proportion of Founders With High Ambition**

- Motivation: Change the world, build a great product
- Unique Selling Proposition: First in the world vs. Better or Cheaper
- Total Addressable Market: ~\$30B as a proxy for global market focus

## **Founder DNA**

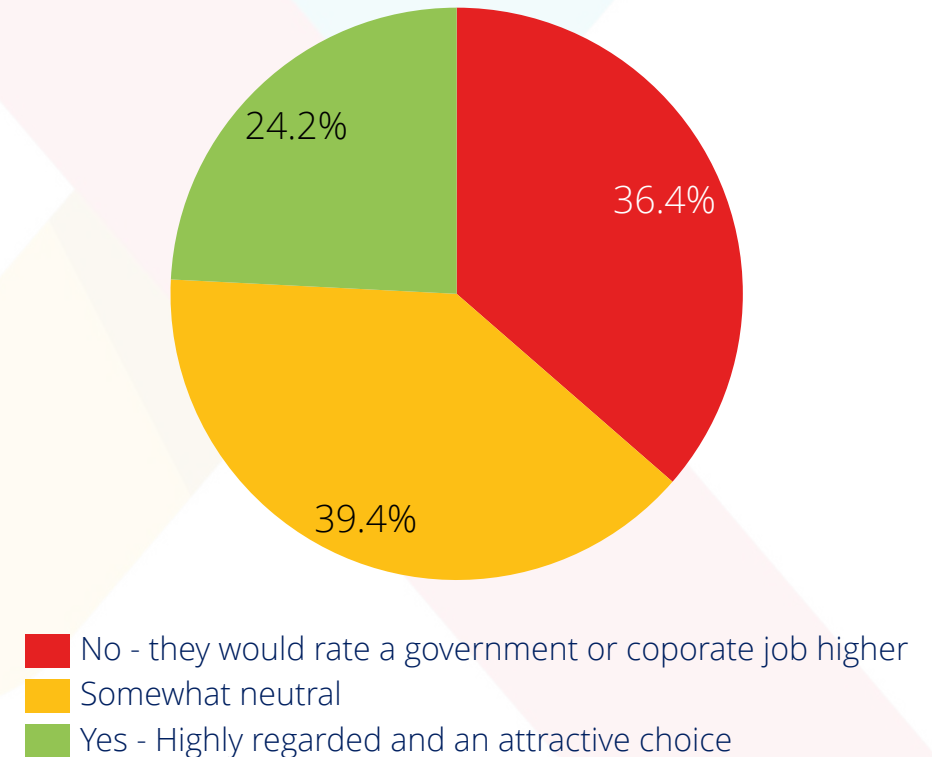
- Founder Background
- Socioeconomic and demographic information

- Culture, ambition, background and diversity are important parameters that influence the performance of founding teams and correlate with ecosystem performance
- We seek to explore the motivation of founders (their mission, purpose and level of ambition. And we contrast ambition with ability, e.g., regarding the competitiveness of their business models and ability to address larger markets.
- The composition of teams also matters, e.g., with founder teams generally being more successful and investable and diverse teams typically being more effective at meeting customer requirements.
- Age as a proxy for professional experience also and increasingly plays a role as industries such as Deep Tech, Fintech and Life Sciences require the expertise that typically comes with professional experience and career in a sector.

## IV. Founder factors across the region

<b>Entrepreneurial Mindset</b>	<ul style="list-style-type: none"> <li>The word “entrepreneur” still has some unfortunate connotations with wealthy and well-connected individuals, able to profit from their position or perhaps linked to less legal parts of the shadow economy</li> <li>Entrepreneurship is not necessarily a primary choice (career plan A) but people rather engage in Entrepreneurship by necessity</li> <li>A donor-heavy environment has stifled founders from gaining an entrepreneurial skillset as they focus instead on receiving grants</li> </ul>
<b>Training Skills</b>	<ul style="list-style-type: none"> <li>Regional SSOPs that do offer entrepreneurial skills and training tend to focus on the basics, such as founding a business or complying with legal requirements. There is a clear lack of entrepreneurial skills for growth/hyper growth skills sets and how to be investment ready</li> </ul>
<b>Founder Traits</b>	<ul style="list-style-type: none"> <li>Most entrepreneurs saw themselves as self-employed rather than as entrepreneurs or businesspeople</li> <li>There is a clear lack of trust between members of the ecosystem. While it is common for founders to socialize in an informal setting with one another, it continues to be a faux pas to discuss business issues outside of working hours. What’s more, founders keep their cards close to their chest as they have concerns that their ideas or business models will be “stolen” if they share or collaborate with other ecosystem members</li> </ul>

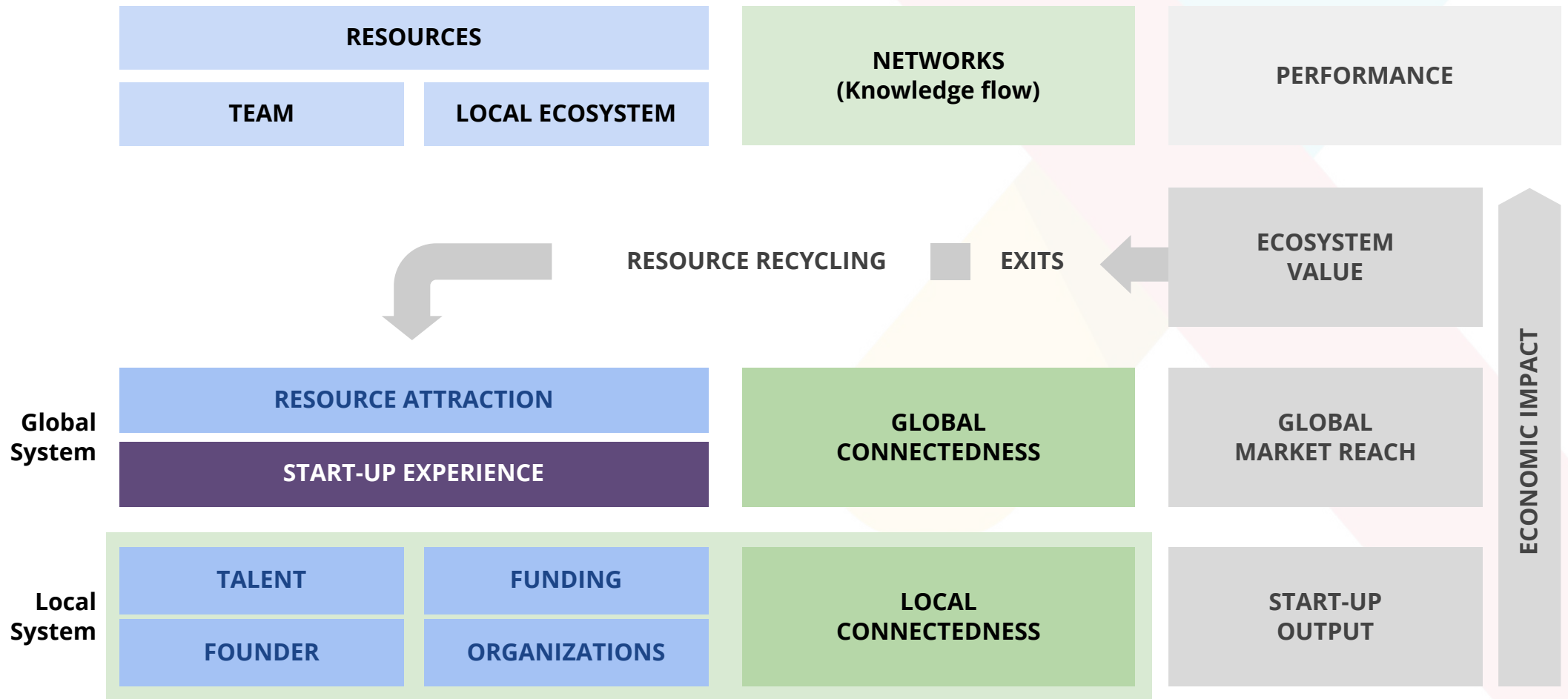
Propensity to choose entrepreneurship as a positive career choice



Source: WB6 Ecosystem Assessment, Primary Survey, March 2018, Technation UK

# V. Success Factor Model

## Start-up Experience





# V. While start-up Experience has developed within the region, it often leaks to other ecosystems

## Leading Series A+ start-ups Founded in WB6



 Start-ups that moved from the WB6 Ecosystem

## Status Quo

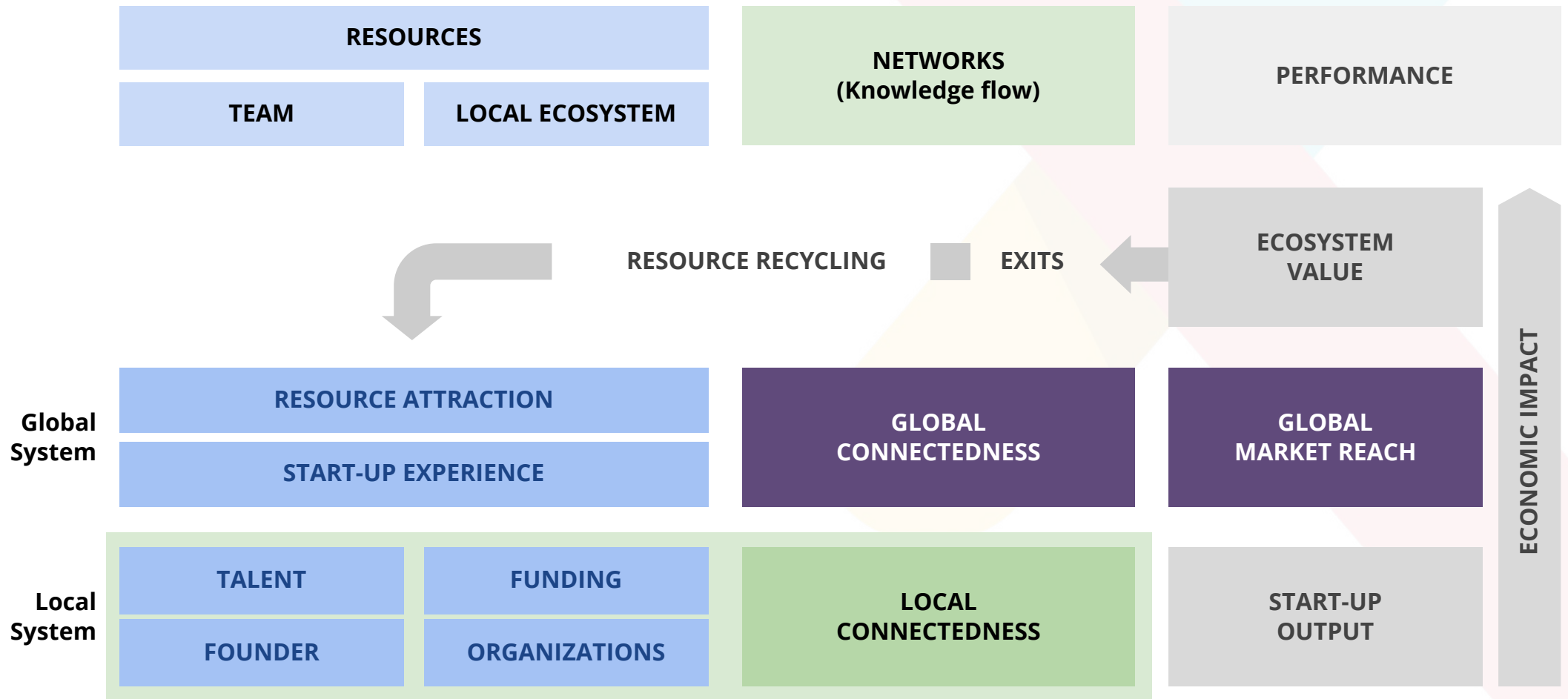
- Start-ups that have raised Series A+ funding have developed start-up experience in the WB6 ecosystem and serve as role models
- However, growth talent often leaks outside the ecosystem, as start-ups that raise Series A+ funding often time exit or relocate to top ecosystems abroad

## Way Forward

- Formalize knowledge-sharing mechanisms between these role models and SSOPs to increase the knowledge offering to aspiring entrepreneurs. Consider the following interventions to inject start-up experience:
  - Digital Business Academy, Growth Hacking Training and online training modules
  - Build deep connections twith the global diaspora

# VI. Success Factor Model

## Global Market Reach



# VI. Global Connectedness and Market Reach must be bolstered across the region to drive scale-up creation

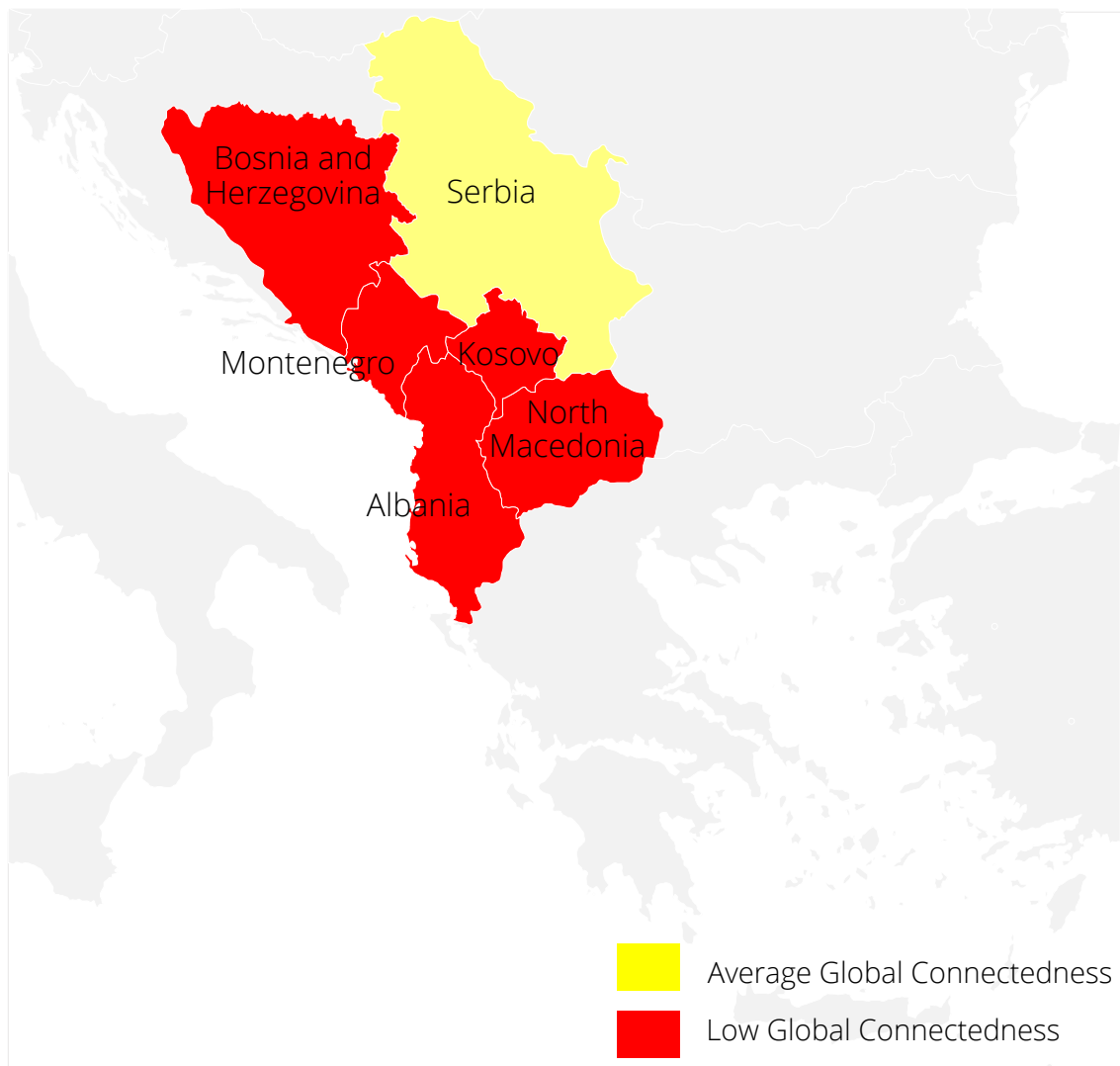
## The Relevance of Global Relationships

- Networks and connections have long been assumed to be important in determining the strength of start-up ecosystems. Through our primary research with thousands of start-up founders and executives around the world, our research has consistently found that globally-connected start-up ecosystems grow faster and perform better than less-connected places.
- Knowledge about innovations or the complexities of disruptive business models are spread by word of mouth between people with quality connections, both local and global.
- These relationships weave together to create the global fabric of knowledge, ideas, people, and organizations. Being part of this global fabric may increase access to potential customers elsewhere, and that certainly helps start-up performance.
- Productivity and innovation increase as start-ups go global—in any given economy, companies with more exposure to foreign markets are the “frontier” firms that drive growth. We estimate the impact of Global Connectedness on the development of an average start-up to be 2.5x, meaning all other factors constant start-ups can grow more than twice as fast.

## How WB6 is Leveraging Global Start-up Knowledge

- For the young ecosystems of the WB6, Global Connectedness may sound overly ambitious or even purely theoretical.
- However, given a context in which start-up knowledge, experience and foreign talent in general is extremely low, access to Global Knowledge – ideas, business models and importantly mentorship – becomes highly relevant.
- Our qualitative assessment estimates the level of global relationships available to founders in the WB6 remains quite low, as the focus of founders is almost exclusively on the local ecosystem and aspirations to be globally competitive are limited.
- We explore the mindset of entrepreneurs regarding their ambition and the competitiveness of their solutions as well as the prevalence of foreign talent in the WB6 ecosystems; all of which are relevant indicators of Global Connectedness and ecosystem performance.

## VI. Key interventions to catalyze Global Connectedness and Market Reach will drive scale-up creation across WB6



### Recommendations

- **Diaspora Activation** – Successful start-ups that have since left the region can be powerful networking opportunities for current founders.
- **Global Mentorship Network** – Diaspora entrepreneurs can serve to source growth knowledge and know-how to SSOPs, as well as leveraging connections to other successful entrepreneurs.
- **Corporate Collaboration** – Incorporating existing industries and companies into the ecosystem to utilize their network can increase the possibility of start-ups to target markets beyond their own borders.
- **Angel Connections** – Tap into existing angel networks globally and incorporate them into the SSOP offering both as a potential source of funding for start-ups but also to foster natural connection between local angels to skill them up and offer them a roadmap on how to properly support an innovative business.
- **Organized Sales Missions** – Establishing sales and export support programs for start-ups will enable faster start-up growth and more vibrant ecosystems, ideally organized as sales mentorship.

# SSOP Landscape

SSOPs and Collaboration Opportunities

# The SSOP portfolio must be developed with a focus on the three main objectives at the Activation Phase

1. GROW  
NUMBER OF  
START-UPS



2. INCREASE  
START-UP  
QUALITY



Bolster Founder Know-How

Strengthen Market Reach

Increase Talent Quality

3. INCREASE  
EARLY-STAGE  
FUNDING



# Definitions of Key Terms

## **Ecosystem Mapping/ Stage:**

**Ideation** - Would-be entrepreneur stage, assistance in this category is to give individuals the ability to formulate their idea into a viable company and navigate the process to officially founding their start-up.

**Incubation** - At this stage, the respective start-up has been created and assistance relates to the initial steps of supporting a business. This concerns legal requirements, business model and adherence with regulations.

**Concept** - The start-ups at this stage are functioning companies with a founding team, but do not have a completed product and have not succeeded at going to market. Assistance at the concept stage allows start-ups to develop a minimum viable product (MVP) in order to begin building a customer base and targeting their niche in the ecosystem.

**Growth** - Companies at the growth stage have a stable presence and are now seeking to scale their business model to reach higher levels of funding. They need support in unlocking additional market opportunities and expanding beyond the local ecosystem.

**IPO/Exit** - These companies have reached a level of maturity where they are seeking to either be acquired or to go public.

# Definitions of Key Terms

## Services:

**Technical Skills** - Educational services and classes offered for the purpose of training founders and employees in how to functionally run a business. These skills often are about following regulatory guidelines, paying taxes or other legal topics.

**Entrepreneurial Skills** - Educational services and classes on how to promote your business, particularly from a sales perspective. This serves to assist founders to create an MVP, identify their target market and reach profitability.

**Mentorship** - Mentors are individuals who have gained expertise in the start-up sphere through experience as founders who have had successful exits themselves and can often be Angel Investors in their own right. They advise and assist founders to navigate the process from establishing their start-ups to reaching a growth phase more successfully.

**Workspaces** - A workspace is office space available to start-ups and founders to use as their base of operations. Workspaces often provide office services such as Wi-Fi, printing, furniture, meeting rooms and can also serve as a community gathering space that facilitate the exchange of ideas between members of the ecosystem.

**Equity Investment** - SSOPs, incubators, VCs and accelerators often offer funding to start-ups in exchange for stock options or a percentage of ownership in the company. This relationship serves not only as an early source of funding but also gives the start-up access to the expertise of their funders.

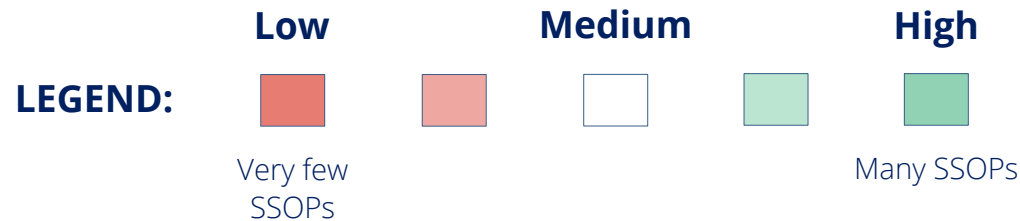
**International Scaling** - Any activity or program run by an SSOP that assists start-ups to access international markets and scale beyond the local(national) ecosystem.

**Advocacy** - Activities undertaken by SSOPs to engage policymakers and government on the needs of the ecosystem at large, proactively trying to ameliorate regulatory burdens and mobilize the community towards achieving these goals.



# Creating a robust portfolio of SSOPs requires mapping the target segment and service offerings of each organization

		Stage				Services						
		Ideation	Incubation	Concept	Growth	Technical Skills	Entrepreneurial Skills	Mentorship	Workspaces	Equity investment	International Scaling	Advocacy
1	Albania	High	Low	Low	Low	High	Low	Low	Low	Low	Low	None
2	Bosnia and Herzegovina	None	Low	Low	Low	High	Low	Low	Low	Low	Low	Low
3	Kosovo	High	Low	Low	Low	None	Low	Low	Low	Low	Low	Low
4	Montenegro	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
5	North Macedonia	High	High	Low	Low	High	High	None	High	High	Low	None
6	Serbia	High	High	Low	Low	High	Low	None	Low	Low	Low	None
<b>Summary</b>		High	High	None	Low	High	High	High	High	Low	Low	Low



# Overlaying the SSOP Portfolio with Activation Phase objectives outlines existing gaps within the WB6 ecosystem

		Stage				Services						
		Ideation	Incubation	Concept	Growth	Technical Skills	Entrepreneur-ial Skills	Mentorship	Workspaces	Equity investment	International Scaling	Advocacy
1	Albania	High	Low	Low	Low	High	Medium	Medium	Low	Low	Low	Medium
2	Bosnia and Herzegovina	Low	Low	Low	Low	High	Medium	Medium	Low	Low	Low	Medium
3	Kosovo	High	Low	Low	Low	Medium	Medium	Medium	Low	Low	Low	Medium
4	Montenegro	High	Low	Low	Low	Medium	Medium	Medium	Low	Low	Low	Medium
5	North Macedonia	High	High	Medium	Low	High	High	Medium	High	High	Low	Medium
6	Serbia	High	High	Medium	Low	High	Medium	Medium	Low	Low	Low	Medium
<b>Summary</b>		High	High	Low	Low	High	High	Medium	Low	Low	Low	Medium

Phase Priorities:



Start-up Output



Start-up Quality



Early-Stage Funding



Critical Gaps (as per phase objectives)

**LEGEND:**

**Low**

**Medium**

**High**



Very few SSOPs

Many SSOPs

# Table of Contents

- 1 Introduction & Scope
- 2 Status Quo
- 3 SSOP: Mapping Start-up Support Programs and Identifying existing Gaps
- 4 Funding: Evaluating Early-Stage Funding
- 5 Sectors: Feasibility of Smart Specialization
- 6 Scenario 2026: Development Potential and Investment Needs
- 7 Other collaboration opportunities
- 8 Ecosystem Development Roadmap

# Smart Specialization

Opportunities for Priority Sub sectors

# 3rd wave of the Internet creates new opportunities

## 3rd wave of the Internet revolution creates new opportunities

- “Digital transformation is underway, and it is going to affect all industries and sectors in the midterm future. Although they describe it differently, both Marc Andreessen and Steve Case have outlined what the emerging new phase of the information technology revolution will look like. For Andreessen, “software is eating the world,” with IT spreading far beyond the conventional technology sector, and into more and more areas of the economy. According to Case, we are entering the Third Wave of the Internet Revolution.
- The first wave of this revolution was carried by companies like Cisco, Netscape, and AOL, who helped build the foundations of the Internet. The second wave was led by businesses like Google, Amazon Web Services (AWS) and Facebook, who built platform services from Internet search to social media and cloud services.
- The Third Wave now is combining these technological developments with the “real world”. Technology has started to transform the physical world, including sectors such as transportation, healthcare, education, manufacturing and agriculture and it will affect how we run our governments and public-sector agencies.
- Many see these changes as a threat, as technology potentially leads to the elimination of thousands or millions of jobs in traditional industries. Undoubtedly, this type of disruption will happen. But the spread of software and the Third Wave also open distinct opportunities for every region of the world in a way those previous phases of the IT revolution did not. The first two waves, in Case’s language, mostly benefitted regions like the Silicon Valley, where many of the of the initial Internet pioneers were based.
- A region known for, say, fruit and vegetable exports can invest in building up a local AgriTech sector. A city dominated by traditional banks or financial institutions can seek to become a leader in FinTech. A community that is a major education centre may want to explore what it takes to become an EdTech hub.
- When we assess a start-up ecosystem, we look for both existing and emerging areas of economic strength, seeking to identify latent potential or areas that are adjacent to the Third Wave of the Internet revolution.”

## Translating global change into regional opportunity

- The Third Wave of the Internet Revolution is underway. By combining software with the “real world”, e.g., through sensors, machines, vehicles and logistic chains, new possibilities but also disruptive challenges are increasingly apparent across all sectors of the economy.
- And whilst software-based start-ups today are in the large majority in the Western Balkans, this new wave holds great promise, both for the start-up as well as for traditional industries.
- Across the WB6 region we see future potential for the start-up ecosystems to contribute to improving large and traditional economic sectors, e.g. in industrial manufacturing, agriculture, tourism, energy and in the provision of public infrastructure and services. And by combining a maker movement with modern eCommerce, the start-up ecosystem may well be able to breathe new life into the existing pockets of handcraftsmanship that are to be found in fashion, apparel and furniture making.
- Quite possibly these opportunities may not only further the development of the WB6 start-up ecosystems, but they may well prove to have a much larger beneficial effect for the entire Western Balkan economies and their integration into the much larger but also highly competitive global value chains.

# Accelerating the tech start-up ecosystem requires choosing focus areas that have high potential and development feasibility

## Criteria for choosing key areas



### Strategic Objectives

Technology verticals that can help modernize and drive efficiencies in industries that are focus areas for the local economy and society



### Addressing Local Needs

Collaborative solutions that can help the local industry clusters and public services unlock value and enhance competitiveness using technology (Digital Transformation)



### Low Development Complexity

Development of solutions that are feasible in an early-stage tech start-up ecosystem, focusing on practical technology and business model innovations rather than cutting edge deep tech



### Global Trends

Investment in sub-sectors and technologies that have witnessed high growth and continue to show potential in a global context

# Mismatch between Employment and GDP Contribution within agriculture highlights high potential for sector optimization

	Albania	Bosnia and Herzegovina	Kosovo	North Macedonia	Montenegro	Serbia
Agriculture GDP	21.7%	6.8%	11.9%	10.9%	7.5%	9.8%
Agriculture Labor	41.4%	18%	4.4%	16.2%	7.9%	19.4%
Industry GDP	24.2%	28.9%	17.7%	26.6%	15.9%	41.1%
Industry Labor	18.3%	30.4%	17.4%	29.2%	17.1%	24.5%
Services GDP	54.1%	64.3%	70.4%	62.5%	76.6%	49.1%
Services Labor	40.3%	51.7%	78.2%	54.5%	75%	56.1%

Source: World Factbook 2017

# Economic Sectors – initial and strategic considerations

## 3rd wave of the Internet revolution creates new opportunities

- Economies in the Western Balkans region tend to be quite diverse, reflective of their need to serve their domestic markets with a larger variety of goods and services as one would experience in smaller economies that are stronger connected to global trade and value chains.
- From an ecosystem perspective a diverse economy can be an upside as it allows talent to develop in broad directions that fosters diversity.
- However, diversification has a different meaning when applied to small economies: several specializations in high-value added sectors could be more productivity enhancing than a broad brushed approach across all industry sectors imaginable, particularly when talent pools, resource and investment are severely constricted.
- The low results in business sophistication in the WEF Global Competitiveness Report point towards a lack of integration and cluster density amongst the WB6 industries.
- With a view to the digital ecosystem but also export competitiveness in more general terms we believe such focus to be beneficial to the WB6 region's innovation ecosystems.

## Translating global change into regional opportunity

### Strategic Sector Delivery Panel:

- Pooling of stakeholder groups active in the strategic sectors, including with political leaders, regulators, industry chambers, and representatives of the ICT industry, academics and start-up ecosystem leaders.
- This should include involvement of the EBRD or other major donors should they be active in the sector.
- The role of the sector delivery panel should include:
  - Informing and shaping government industrial strategy
  - Seeking agreement with regulators as per the use of new technologies or business models
  - Building profile for the sector opportunity within the country / region
  - Encouraging collaboration
  - Building profile and relationship networks with international investors and clients
  - Best practices examples for sector delivery panels exist that can be leveraged, e.g., with the UK [Delivery Panels for Fintech, Insurtech, Lawtech](#)

### Regional “Grand Challenges

- Big Bets are larger and longer-term development programs that seek to develop entirely new solutions that are competitive on international markets.
- In Google's language they are best described as ambitions “Moon shots”.
- Typically, these Big Bets address problems that are too complex for a single organization – corporation, R&D institution or start-up - to solve on a standalone basis. Big Bets seek to combine stakeholders with a genuine interest, capability and resource required for development and commercialization.
- Big Bets typically span a period of 6 – 18 months of intensive collaboration. They require work in a sequence of phases: Starting with defining a Big Bet problem and contracting potential partners, projects typically move quickly into a phase of ideation and research. Ideas then are being piloted, using incubation and acceleration environments. In their final stage, Big Bets aim at leveraging the larger distribution networks of their corporate partners to achieve rapid market penetration and commercial scale.



# Economic Sectors – initial considerations

## Agriculture

### WB6 perspective:

- The WB6 region is agriculture-intensive, and agriculture accounts for 12 per cent of value added on average, ranging from only 7 per cent in BiH to 23 per cent in Albania.
- Agriculture also plays a vital role, both socially and in terms of employment, e.g. employing more than 50% of the active workforce in Albania.
- Serbia stands out as having a clear comparative advantage in farming, mainly due to fertile agricultural soil in its northern province of Vojvodina.
- The other five countries have less advanced agricultural sectors, mainly consisting of small-scale and inefficient subsistence farming. With a view to their export contribution, agriculture remains small and below the opportunity that easy access to the EU with its high demand for such products provides.
- In addition, most exports are raw products, and the region misses out on generating the value add that results from food processing operations. The potential for agribusiness to develop further in the region is significant provided countries can drive efficiency in agricultural holdings, improve the quality of collection, storage and marketing, and develop agricultural support services.
- The EU supports the sector with approx. 200 MN USD as part the rural development program (IPARD). One of the biggest AgTech research institutes in Europe – BioSense - already is located Serbia.
- High quality farmland, significant donor investment and developed scientific research across the region provide the foundation for the development of an AgTech industry.
- We believe that the agricultural sector has not yet experienced the full impact of digital transformation and provides opportunities for new thinking, both in the application of digital technologies and in new business concepts such as the sharing economy.

### Global Perspective:

- Globally, Agriculture and the respective AgTech sectors remain underinvested, although growth rates are changing dramatically.
- Tech solutions across the entire supply chain (“Farm to Fork”) will create global export opportunities, both in mature and in developing markets.

## Manufacturing

- The role of industry is particularly important in Serbia (where it represents an equally important part of the economy as in EU-11) and, to a slightly lesser extent, in Bosnia and Herzegovina and Kosovo. Manufacturing is the predominant industrial subsector, especially in Serbia, North Macedonia and Kosovo, particularly in regard to automotive components: The continued strength of the subsector has relied upon cost competitiveness, geographical proximity to EU markets and a historical legacy of manufacturing automotive components. The large scale FDI led investment into component manufacturing made by FIAT in Serbia demonstrates the potential.
- To maintain their competitive edge in industrial manufacturing suppliers in the Western Balkans will need to modify their business practices to meet new requirements in terms of quality standards, design and development capabilities and supply chain management. Governments must also change the focus of their reform efforts, as the experience in other CEE countries has shown that once the initial wave of privatization-related investment subsidies, factors such as institutional development, infrastructure and the quality of the business environment become increasingly critical to ensuring the sustainable competitiveness of the sector. Similar to other export led sectors, the industry needs to develop up the value chain, e.g., by having a stronger focus on innovation in product development, design and service and by providing systems solutions rather than components only. Start-ups particularly in Germany and the Nordics already have had a significant impact on traditional manufacturing, e.g., by equipping outdated industrial sites with the sensors, connectivity and analytics that allow to turn “old” equipment into intelligent production systems. A large demand for small and affordable solutions combined with the engineering expertise at many of the WB6 technical universities provide a promising environment for a start-up revolution in industrial manufacturing.

# Economic Sectors – initial considerations

## Tourism – High value experiences

- Several countries have strong potential for further growth in the tourism sector.
- In 2013, receipts from international tourists already amounted to 21 per cent of GDP in Montenegro and 13 per cent of GDP in Albania.
- Both countries, as well as others in the region, expect tourism numbers to increase significantly in the coming years, especially as the quality of infrastructure and services improves towards the standards of the most advanced Western markets.
- And whilst tourism industries traditionally create a larger amount of lower skilled employment, we believe there to be an opportunity where digital services can help promote and deliver higher end tourism and hospitality services, enhance the tourist experience and ultimately create opportunity for building sophisticated export solutions for global tourism & hospitality markets.
- Tourism shows significant potential for most of the Balkan region, provided, the WB6 countries can combine and market their natural and cultural assets internationally in a more integrated and compelling offering.

## Government and the Public Sector

- Public administration, defense, education and social services account for 17 per cent of economic activity on average, ranging from 13 per cent in Albania to over 25 % for Bosnia and Herzegovina.
- The combination of large size but low factor productivity in the public sector offers plenty of opportunity for disruptive new thinking; that is provided ecosystem actors can get access to public projects.
- Given the dominant role of the state in the provision of energy (generation and distribution) we include the concept of Renewable Energy and Energy Efficiency technologies here in Government and Public Sector
- The energy and utilities sector is in need of modernization all across the Western Balkans in order to meet strict EU criteria for emissions and to overcome frequent shortages in supply, generation and distribution capabilities. In addition, sustainable energy generation and energy savings measures are frequently discussed but largely non-existent.
- Respective investments are supported by EBRD and World Bank funding.
- We believe there to be opportunity particularly in Renewables, in intelligent grid management and in energy savings technologies where start-ups will not only find a domestic market but also relevant export opportunities.
- Given the high profile of green or carbon neutral energy globally, this subsector also is poised to attract very significant interest and investment from the public and the Venture Capital Industry for the foreseeable future on a global scale.
- Any innovative developments in this space stand good chances to secure very significant export market opportunities.

# Economic Sectors – initial considerations

## Gaming and Digital Entertainment

### Local Perspective

- Within the software development sector, Digital Entertainment appears to be one of the hugely promising specializations where the WB6 already have obtained a competitive international position.
- Ranging from leading gaming companies in Serbia, North Macedonia and Albania to movie and special effects production in Skopje (fx3x studios) to the Augmented Reality developments happening at Microsoft Belgrade, the region commands a promising mix of sophisticated technology as well as the creative talent.
- And whilst its GDP contribution today may be marginal, the Digital Entertainment industry may punch way above its weight in developing international profile for the WB6 start-up ecosystem, attracting specialist talent, investment and spearheading the use of highly advanced technologies.

### Global Perspective

- After a significant slow down in the development of this rather mature segment in tech, the Pandemic has turned around interest in gaming and online entertainment solutions. We expect this trend to continue post pandemic providing a significant market for export.

## Digital Craftsmanship, Fashion & Apparel

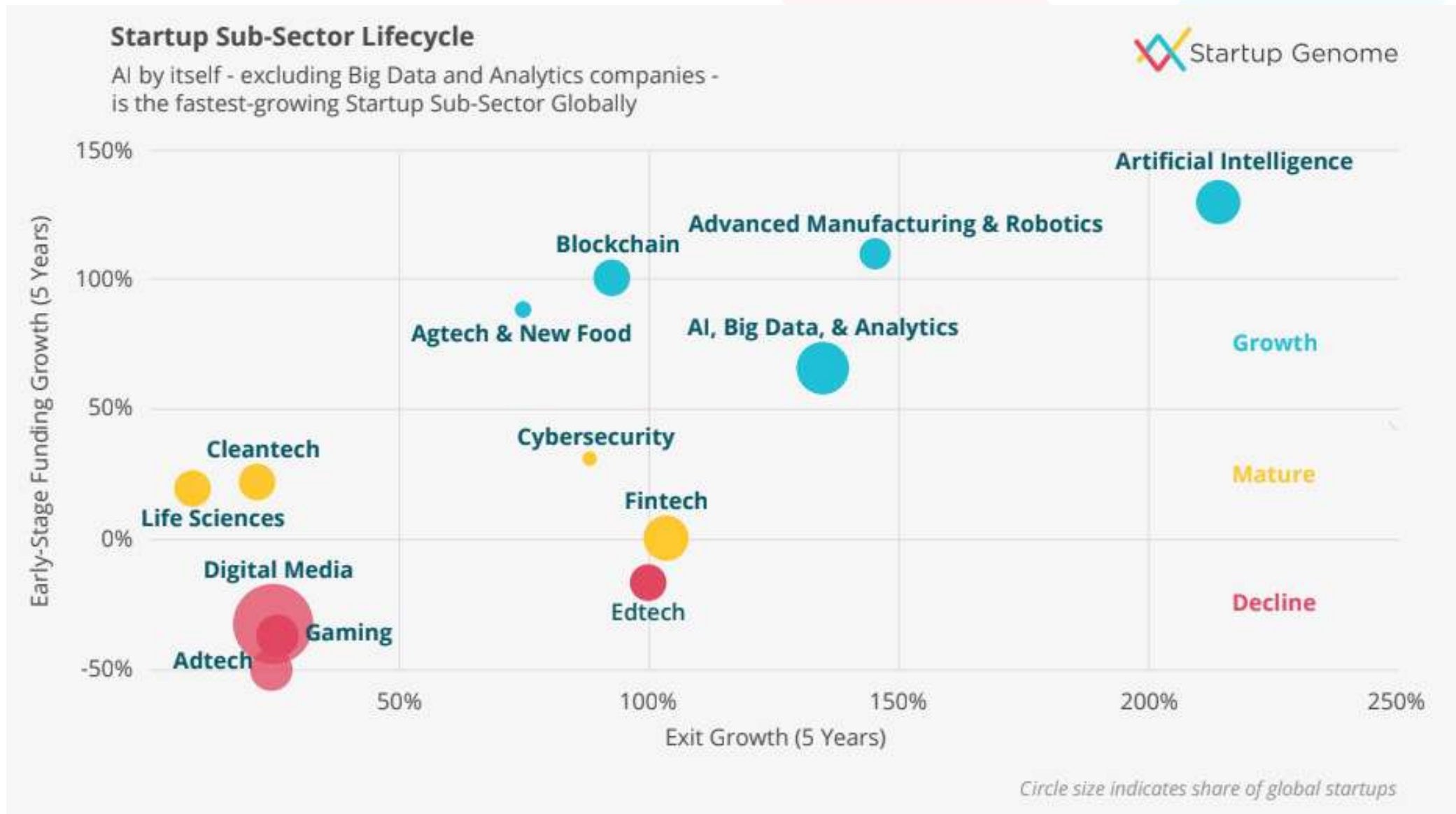
### Local perspective

- The Western Balkans have a long tradition in craftsmanship, particularly in respect to fashion and apparel, wood crafting and furniture production.
- Traditionally, talent pools are broad and deep and business relationships with European brands are well developed.
- The increasing demand for ever fast changes in styles and collections requires producers to near shore.
- In addition, hedonistic Western consumers increasingly are demanding highly individualized products.
- From a start-up community perspective, we could envisage a maker movement, combined with eCommerce and modern logistics, to provide opportunity for providing highly bespoke and upmarket products for Western consumer markets.



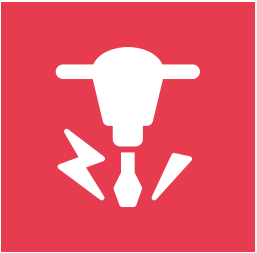



### Global Perspective

- A niche sector that remains underdeveloped and often overlooked by big tech and their investors.
- However, successful scale-up companies exist in Western economies, largely focusing on product marketing, supply chain and eCommerce solutions.
- Developments here that can truly connect customer demand or even customer – supplier co-design and supporting supply chains may prove relevant for many economies, particularly in the developing world.

# Global Potential of technology Sub-Sectors



# A robust sub-sector strategy requires overlaying national industry strengths with corresponding tech sub-sectors

	WB6 Industry Strengths	Contribution to GDP (in \$B)	Tech Subsector	Sub-Sector Landscape	Global Landscape
	<p><b>Agriculture</b></p> <p>The Agri-food industry is the single biggest employer in WB6. Agriculture technologies can help transform the industry into a driver of value addition and innovation in rural areas.</p>	 <p>\$34</p>	AgTech and New Food	Niche, no clear leader	High Growth
	<p><b>Manufacturing</b></p> <p>Manufacturing is the dominant industrial sector across the WB6, increased competitiveness can be achieved with digital solutions for supply chain and design.</p>	 <p>\$18</p>	Advanced Manufacturing & Robotics (AMR)	Niche, no clear leader	High Growth
	<p><b>Tourism</b></p> <p>Tourism contributes to 9% of WB6 GDP, significantly higher than the world average of 3.5%. Technology optimization can augment the value contribution even further</p>	 <p>\$16</p>	Tourism & Hospitality Tech	Regionally dependent, no clear leader	Un-determined

# These start-up sub-sectors represent key opportunities based on global trends, current start-up activity and our expertise

## WB6 Industry Strengths

## Global Landscape



### Applied Blockchain

Serbia- Blockchain is a fast-growing subsector with high value potential that has already started to develop in Serbia. Continuing to focus on Blockchain as a sub-sector can lead to a regional niche for the WB6.

High Growth



### Gaming & Digital Entertainment

Serbia & Bosnia and Herzegovina- A highly profitable sub-sector, leading gaming companies in Serbia have already begun to establish a local niche in Gaming. Digital entertainment in general represents an opportunity for highly specialized talent in the WB6 region to add significant value to overall GDP.

High Growth



### Gov Tech, Public Services

Low government efficiency, high public employment. Growth potential is high to introduce digital solutions to public services, massive market.

Growth Market



### Fashion Tech, E-commerce & Supply Chain

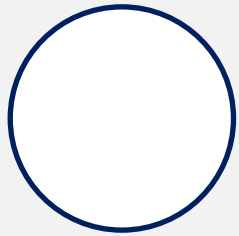
North Macedonia, Kosovo, Albania, Montenegro- Capitalize on traditional craftsmanship in fashion by connecting to global supply chains to sell to Western markets utilizing E-commerce platforms.

Local Niche

# Regional Grand Challenges as a promising mechanism to create engagement across the broader stakeholder community

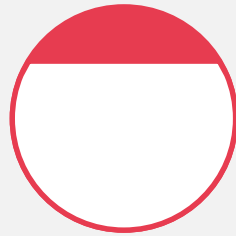
3rd wave of the Internet revolution creates new opportunities

Translating global change into regional opportunity



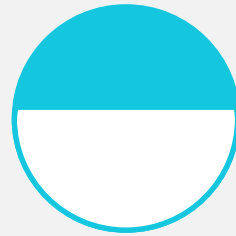
Ideaation

Initial idea?  
Fit with strategic sector focus?  
Anchor sponsors?



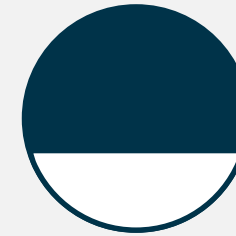
Research

Existing solutions?  
CoEs and R&D programs?  
Extension of the partner base



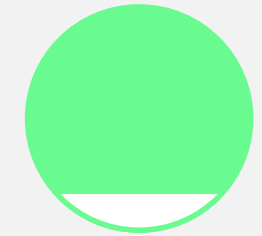
Development to MVP stage

Accelerator environment



PoC

Testing in PoC programs



Commercial use

Commercial use by partners starts  
Potential new businesses or JVs

- To support accelerated development in the strategic sectors, we recommend organizing a number of Big Bets or Innovation Challenges. The Big Bets ideally operate at the WB6 regional level, or they combine participants from a subset of countries for which the respective sector is of high priority.
- The agricultural sector and AgTech solutions may prove a valuable pilot given its relevance for all six geographies.
- Best practice examples exist than can be leveraged, e.g., with [UK Grand Challenges](#), the UK catapults and [Switzerland's digital challenges](#).

# Table of Contents

- 1 Introduction & Scope
- 2 Status Quo
- 3 SSOP: Mapping Start-up Support Programs and Identifying existing Gaps
- 4 Funding: Evaluating Early-Stage Funding
- 5 Sectors: Feasibility of Smart Specialization
- 6 Scenario 2026: Development Potential and Investment Needs
- 7 Other collaboration opportunities
- 8 Ecosystem Development Roadmap

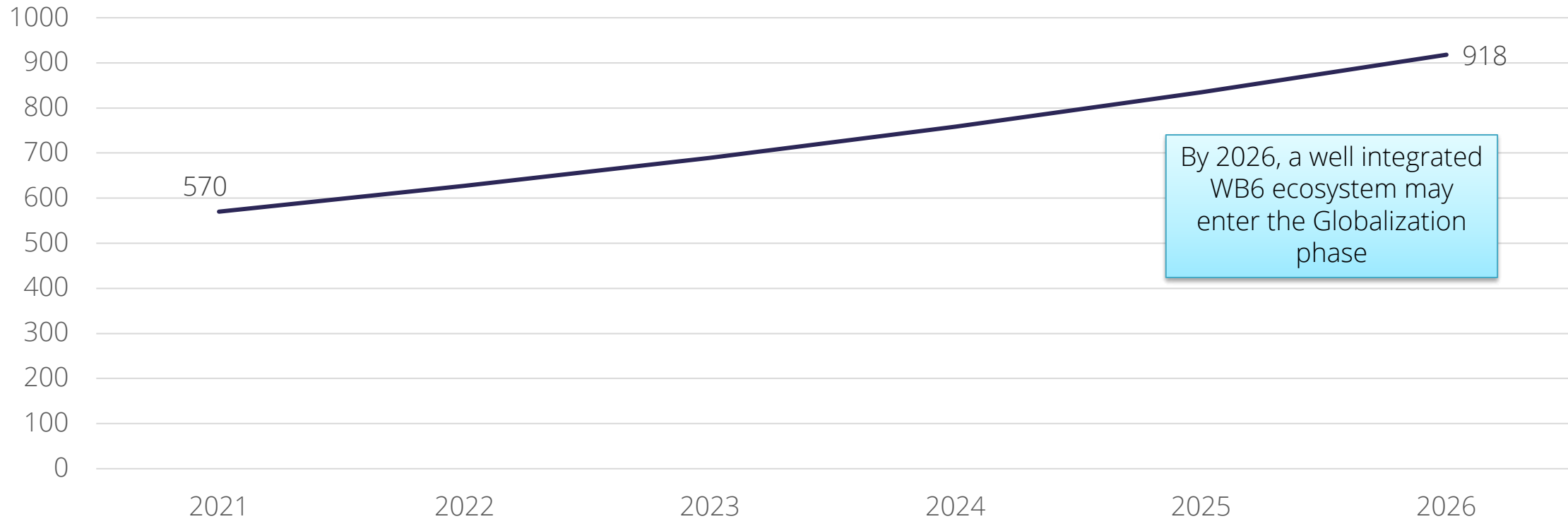


# **WB6 Vision 2026**

**Potential Development Path  
2021 - 2026**

# Collectively, the WB6 ecosystem will have over 900 start-ups by 2026 at a 10% growth rate

Potential Output Growth in WB6



# A combined WB6 ecosystem will also see the exponential effects of Output growth on scale-up and job creation

	Start-up Output 2021	Output Growth Rate <sup>1</sup>	Start-up Output in 2026	Employment Generated: Start-ups <sup>2</sup>	Employment Generated: Scale-ups	Total Direct Employment	Total Indirect Employment <sup>3</sup>	Total Employment
Current Scenario: 2021	570			3,420	527	3,947	15,787	19,733
Vision 2026	570	10%	918	5,508	2,205	7,713	30,852	38,565

In 2026, the WB6 start-up ecosystem can generate ~18,800 jobs by fostering a cohesive ecosystem and driving start-up and scale-up creation

1. Output Growth Rate determined based on fast-growing but small (less than 100 start-ups) ecosystems
2. WB6 start-ups generate about 5.75 jobs per start-up (Startup Genome survey based on Serbia)
3. Scale-ups in early-stage ecosystems generate an average of about 105 jobs per company (Startup Genome research)
4. Indirect Employment refers to the creation of additional support jobs for every job created. Technology-driven industries have one of the highest multipliers at around 4X (Kauffman Foundation & MIT Sloan)

# Driving start-up creation in WB6 requires injecting Early-Stage financing in the ecosystem, bridging the existing gap....

Early-Stage Funding needed for Vision 2026 (570 start-ups)

Seed

	WB6 Ecosystem	Activation Benchmark
Average Seed Round ('000)	\$374	\$539
% of Seed Rounds of Total Start-up Output	6.3%	11.4%
Total Seed Funding Required, non-normalized ('000)	\$21,519	
Engineer Salaries ('000)	\$18.8	\$39
Ratio of Engineer Salaries in WB6 to Activation average	48%	
<b>Total Seed Funding Required, normalized ('000)</b>	<b>\$3,397</b>	

Series A

Average Series A Round (\$K)	5,269	\$ 3,347
% of Series A Rounds of Total Start-up Output	0.88%	4.29%
Total Series A Funding	\$26,346	\$81,842
Total Series A Funding Required, non-normalized ('000)	\$55,496	
Average Business Development employee salary ('000) <sup>2</sup>	\$63	\$63
Weighted Average Cost of Employee ('000) <sup>3</sup>	\$30	\$45
Ratio of Weighted Average Cost of Employee for local Start-ups to Activation Average	66%	
<b>Total Series A Funding Required, Normalized</b>	<b>\$27,947</b>	

1. Calculated based the levels of Early-Stage Funding that Palestine should have compared to Activation ecosystems

2. Average salary for Business Development employee in the US and Germany (or scaling markets)

3. Average cost per employee based on cost of 3 local engineers to 1 BD Employee

# ....which will grow with an increase in start-up Output

Gap Compared to Activation	<i>All figures in USD K</i>	Seed	Series A	Total Early-Stage Funding Gap
	2021 (Present Day)	\$3,397	\$27,947	\$31,343
	2022	\$3,737	\$30,741	\$34,478
	2023	\$4,110	\$33,815	\$37,926
	2024	\$4,521	\$37,197	\$41,718
	2025	\$4,973	\$40,917	\$45,890
	2026	\$5,471	\$45,008	\$50,479

# Table of Contents

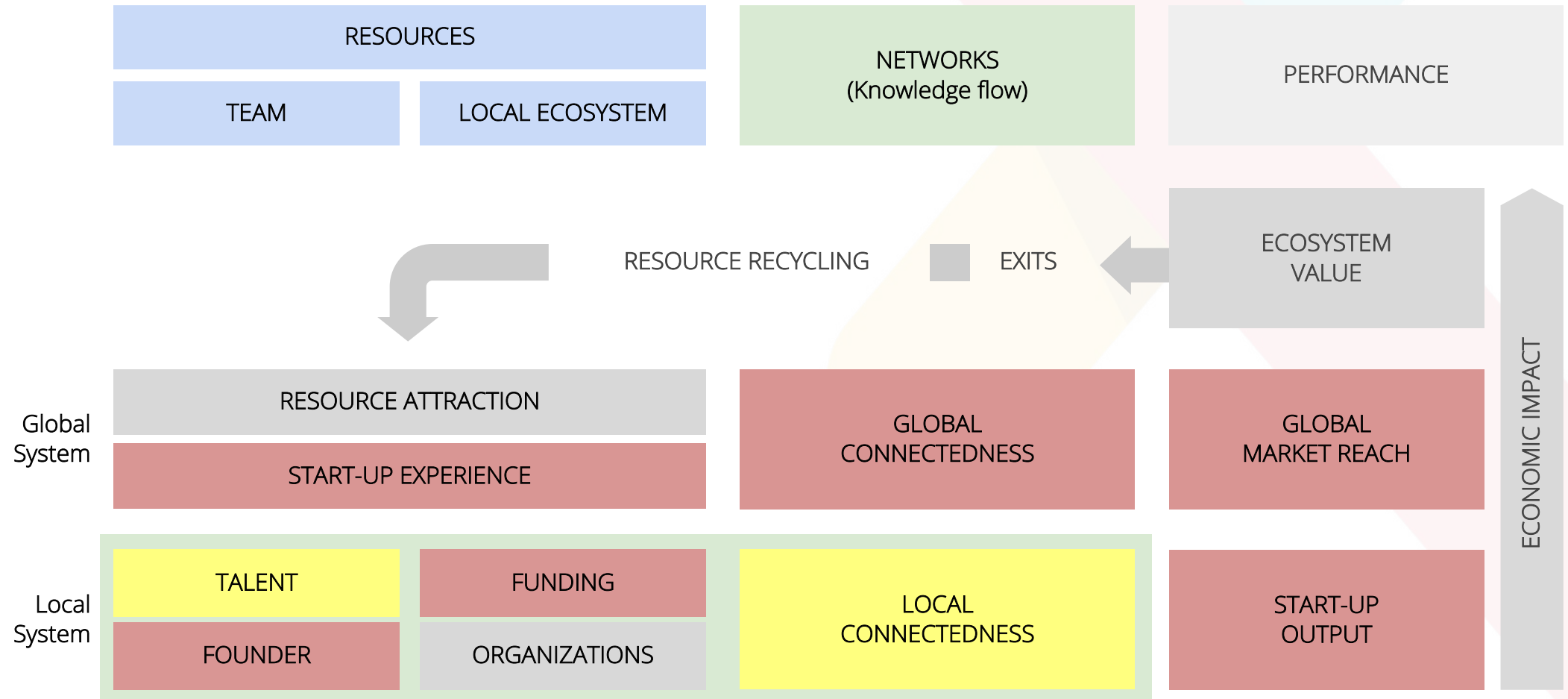
- 1 Introduction & Scope
- 2 Status Quo
- 3 SSOP: Mapping Start-up Support Programs and Identifying existing Gaps
- 4 Funding: Evaluating Early-Stage Funding
- 5 Sectors: Feasibility of Smart Specialization
- 6 Scenario 2026: Development Potential and Investment Needs
- 7 Other collaboration opportunities
- 8 Ecosystem Development Roadmap

# Key Recommendations

Growth Stage Acceleration and Early-Stage  
Funding Solutions

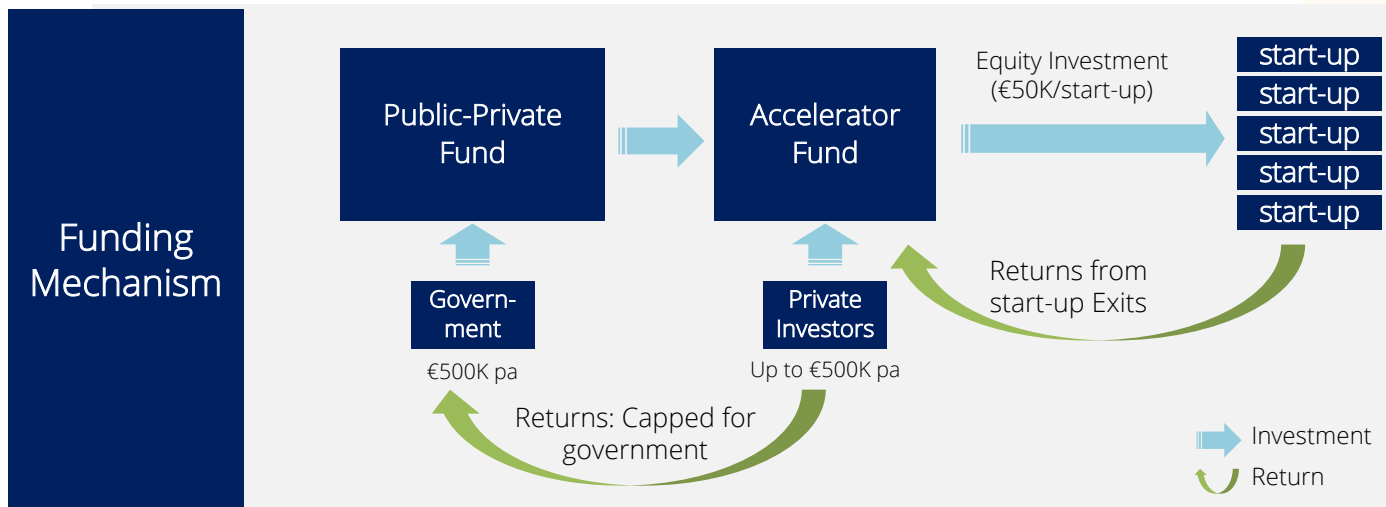
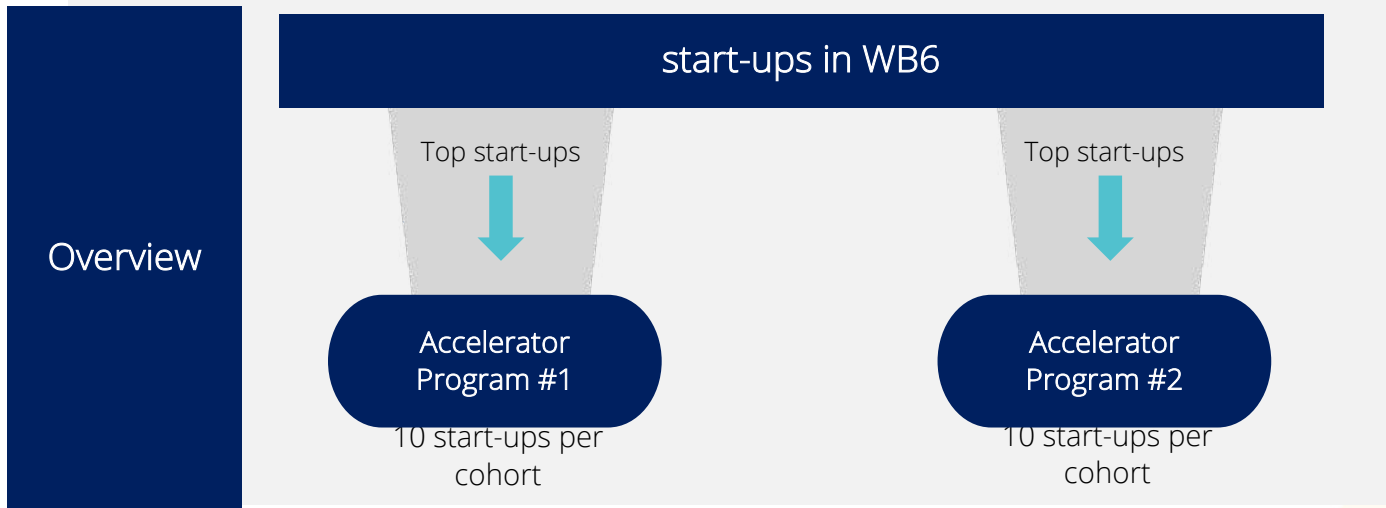
# Assessment Summary – from Qualitative Inputs and Desk Research Only

Color-Coded Summary Ecosystem Success Factor Scores for the Western Balkans – 6x



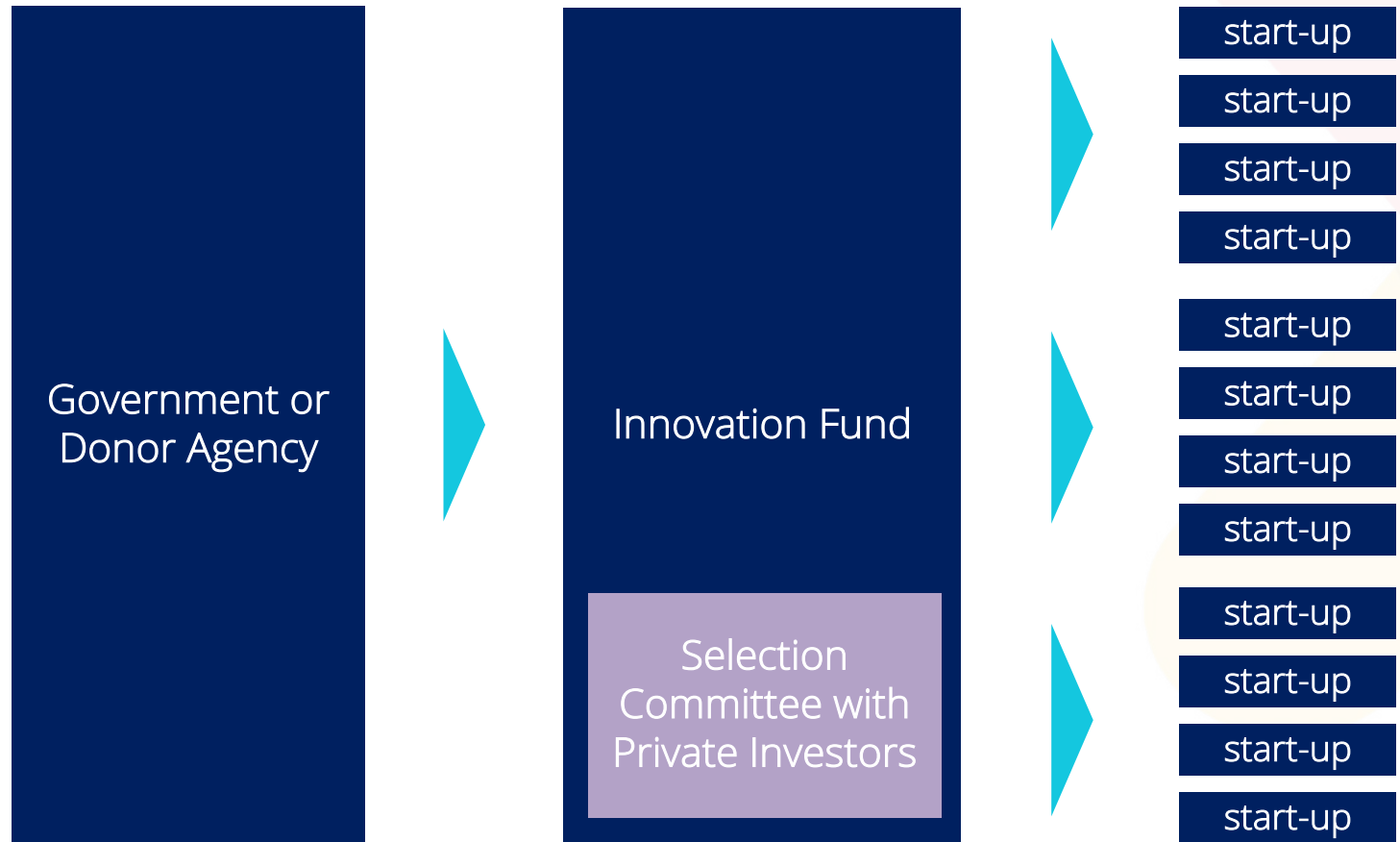


# 1. Growth Accelerator: Accelerate the development of a select number of companies to form a nucleus of investable start-ups



<b>Initiative and Delivery Mechanism</b>	A growth accelerator program with 1-3 distinct accelerators, focused on different sector / technology areas as well as a supporting funding policy. Each program selects approx. 10 start-ups per cohort.
<b>Objective</b>	Accelerate the highest performing set of early-stage start-ups to become scale-ups and create economic value by injection of capital, knowledge, and expertise through the program
<b>Strategic Focus</b>	Create programs focused on different technology and sub sector verticals, e.g., one program focused on sectors where local start-ups have high potential for rapid scaling and the other on areas more aligned to the needs and opportunities in the Western Balkan economies.
<b>Funding Structure</b>	We recommend creating a mechanism of injecting government capital into accelerator venture funds alongside private investor money (50-50) for start-up investment at the rate of 50K EUR per admitted start-up for equity.
<b>Corporate Involvement</b>	Optional but desirable involvement of corporations to support a program. Corporations can be effective in injecting industry expertise, providing Testing and Proof of Concept opportunities, and in providing additional sponsorship funding

## 2.a. Limited access to private funding necessitates a government-led pre-seed grant program to expand budding start-ups count



High-risk profiles and long development processes at initial stages means that government intervention will be required.

**Pre-Seed Financing**  
 EUR 1M per annum\*, 2021-2025

Private angel groups are the most effective instrument in selecting investable businesses. These need to be channelized through the Innovation Fund

**Pre-Seed Grants** EUR 20K per start-up\*  
 50 start-ups receive pre-seed grants each year

### Overview

**Objective:**

- A sizable pre-seed grant program designed with longevity in mind will expand the entrepreneurial funnel and grow Start-up Output
- Initial stages of ecosystem development requires government financing support to operationalize this endeavor

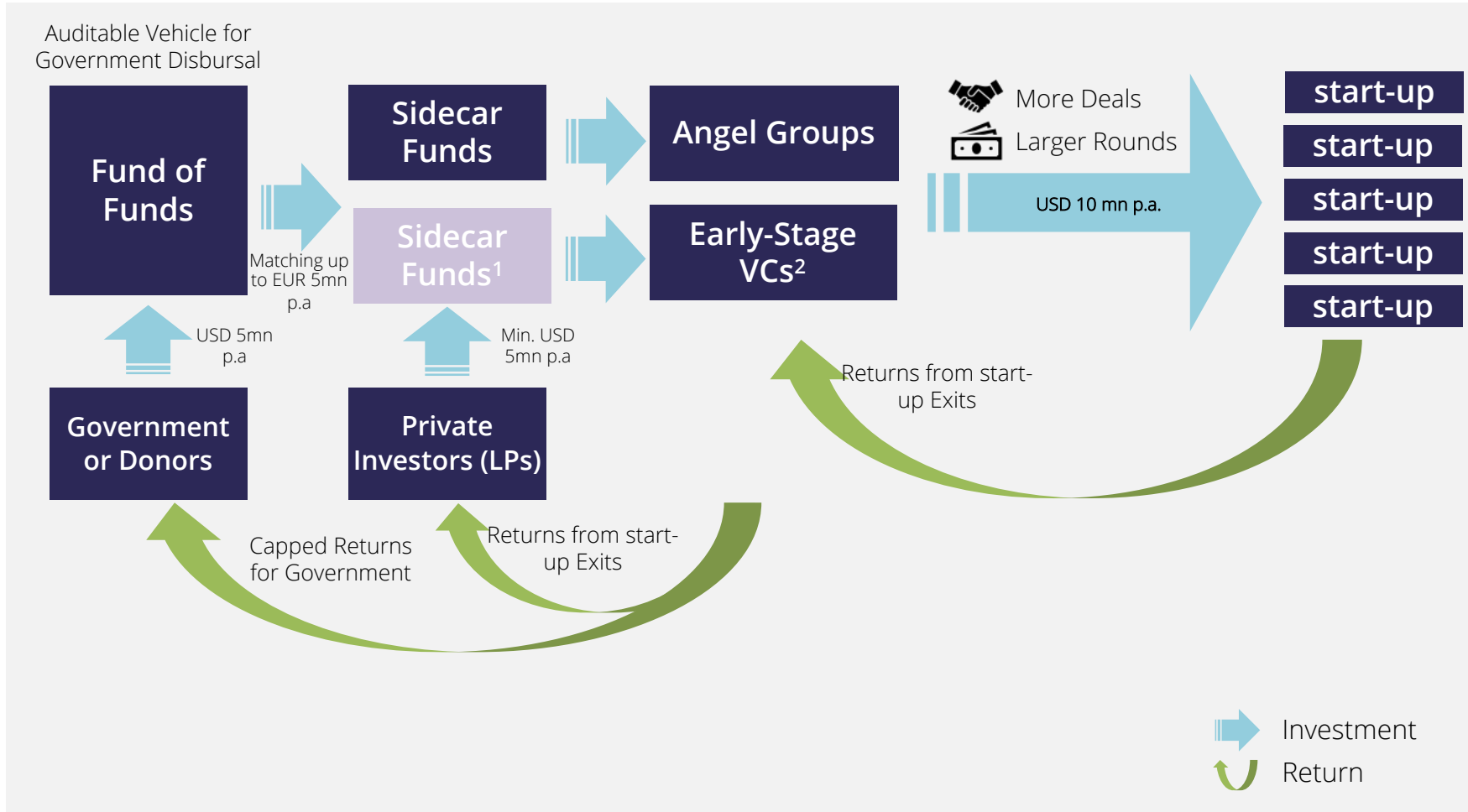
**Distribution:**

- We propose for selections to be supported by qualified and accredited angel group(s) to ensure that the start-ups selected are scalable and investable
- Angel Investors and Groups are likely to be very interested as the program directly helps develop the deal-flow that Angels will wish to invest in as soon as the companies show initial traction

**Budget and Grant Size:**

- With an estimated size of 20K EUR per grant, with a limit of one grant per start-up
- A proposed budget of 1 M EUR for the Pre-Seed Grant program, allowing for 50 companies to receive funding each year

# 2.b. A fund of funds can strongly support the injection of early-stage financing in the ecosystem



## Overview

- Rationale:**
  - At the Early Activation phase, private investors will find financial results to be volatile and more difficult to achieve than in more mature tech clusters
  - We believe government funding to be required to increase the funding access for start-ups
- Advantages:**
  - Allows angels to stretch their own money across not only a broader portfolio but also into larger rounds
  - Supports group in increasing deal flow and accelerating the accumulation of investment experience
  - Enables private individuals and organizations to invest in start-ups without having to manage the portfolio
- Financial Commitment:**
  - We estimate a total funding of USD10mn p.a. (10M over 5 years) for the time period 2021-2025 to be adequate
  - Funding should be equally provided by government (FoF) and private investors.

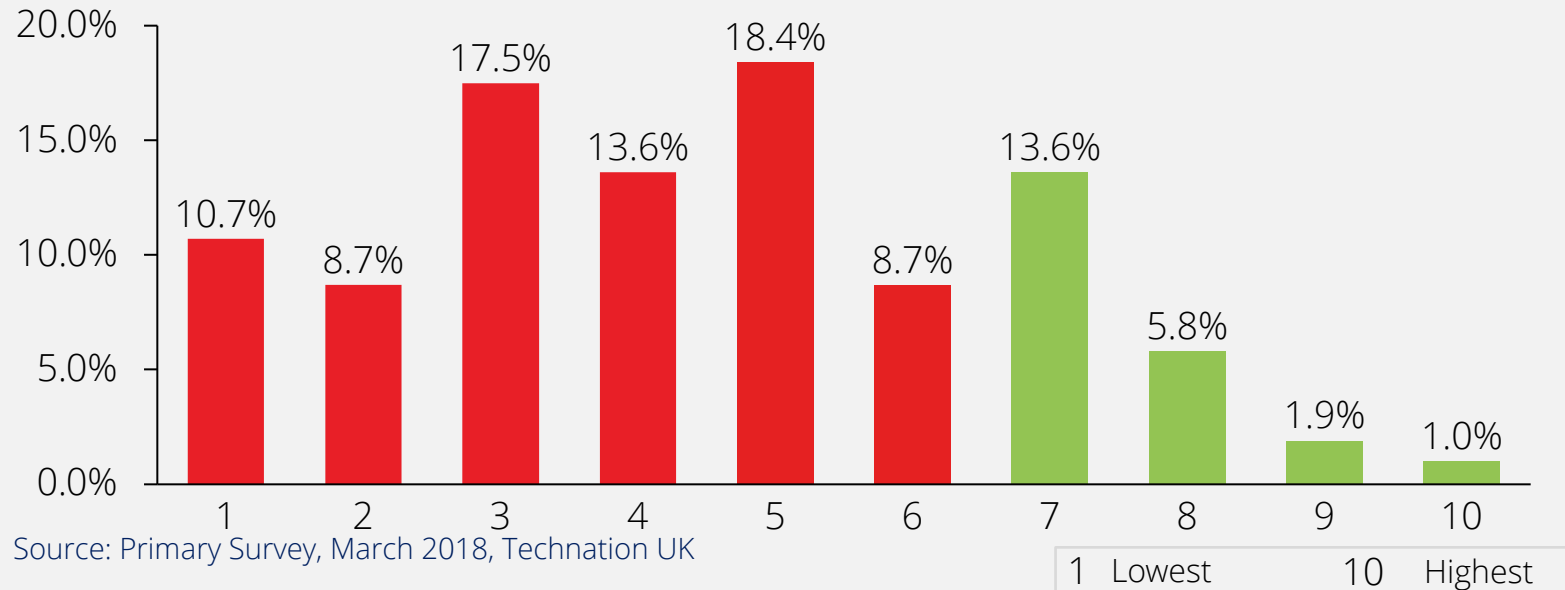
1. To be determined if sidecar funds for early-stage VCs is optimal for injection of public funds  
 2. Refers to VCs investing in Seed (including pre-seed and angel) and Series A rounds in the ecosystem

# **Additional Recommendations - Building a competitive Policy Environment**

Collaboration Opportunities in Political and  
Regulatory Advocacy

# Policy – Focus Collaboration

How adequate is the current policy and regulatory environment for your business? (e.g., in respect to taxes, permits, labor laws, etc.)?



## Solutions

- Frameworks for Equity Investment
- Tax incentives for investors
- De-risking investment by means of sidecar funds / FoF concepts
- Communitech, MaRS Discovery District & Ottawa Invest scale-up regional accelerator in Ontario (cross-collaboration among multiple keystone orgs for deal-flow)

## Themes from Qualitative interviews

### Obstacles:

- Significant legal and regulatory obstacles, such as the lack of legal definition and framework for VCs and Angel Investors and high tax obligations
- Issues and discussion with regards to mitigation seem very similar across nearly all six geographies
- Absence of effective coordination, advocacy for start-ups and knowledge exchange

### Expectations:

- Desire to build an entrepreneurial led policy network to discuss, co-design solutions and to advocate at a higher level of sophistication

# Policy – Priority Issues and Topics



## Culture and Digital Acceptance

- Culture of innovation and entrepreneurship / Embracing entrepreneurship and risk taking
- Acceptance and engagement with digital solutions across broader society



## Equity Investment

- Legal and tax frameworks for private risk capital investors (Angel Groups, Venture Capital)
- Tax Incentives for private and institutional investors (e.g., UK SEIS / EIS schemes)



## Start-up Acts / Ease of conditions for new companies

- Reduction of reporting and filing requirements
- Tax and Social Security Obligations shield for 1-2 years after incubation



## Public Procurement

- SME inclusion in Public Procurement
- Tenders and Lot sizes
- Lowest cost vs quality principles
- Training and incentivization of Public Procurement Officers



## eGovernment

- Digital signatures / digital identity
- Harmonization of processes and data standards to drive interoperability between government departments and public services



## Open Data

- Further development and application of open data standards and the availability of public data sets
- Inclusion of private business data sets
- Regional collaboration for significant data sets feasible to enable machine learning applications

# **Additional Recommendations** **- Driving regional connectivity** **positive culture change**

Collaboration Opportunities to strengthen  
Local Connectedness and Regional  
Community

# Creating regional connectivity within the WB6 Region

## Mapping

- With more and more actors entering the ecosystem environment, it becomes increasingly more difficult to identify and approach those mechanisms and programs that best fit with the needs of founders at their different stages of the business life cycle. A simple but well-structured mapping of ecosystem participants and their offerings would be seen as hugely beneficial. Currently it does not exist with the exception of small conceptual websites that are being piloted in Skopje and in Tirana

### Joining the dots

- With mapping comes the opportunity to integrate and synchronize support programs with start-up life-cycle stages. Even more importantly, similar and duplicative efforts as well as gaps become more visible, providing opportunity for ecosystem leaders to better coordinate activity, particularly when there are benefits to be gained by reaching beyond the individual cluster, city or even national boundary

## Building awareness

- Entrepreneurship as a career choice, start-ups as an opportunity for significant progress and overall excitement for this new segment is still lacking. Factual information, reportage that shares success stories and portrays of entrepreneurial role models needs further building out to effect culture change more broadly
- This should include promoting tech with girls to address the gender bias that today is prevalent, both in the industry and in wider society.

### Reporting progress:

- The development of the start-up ecosystem should be tracked, and progress reported at minimum at an annual basis, e.g., to inform government and other relevant statistics as well as to allow for factual reportage. This requires tracking and compiling key performance indicators such as the number of start-ups created and active, start-up density, job creation, investments and exits.
- A Tech Ecosystem report then can provide relevant insight into the development of start-ups in their various stages, investments, interesting new developments and overall progress can provide factual information for ecosystem participants and the interested public. International ecosystem databases and information providers use similar reports to include a region / country into their data and reportage.
- Best practice examples exist, e.g., with the UK [Technation Report](#).



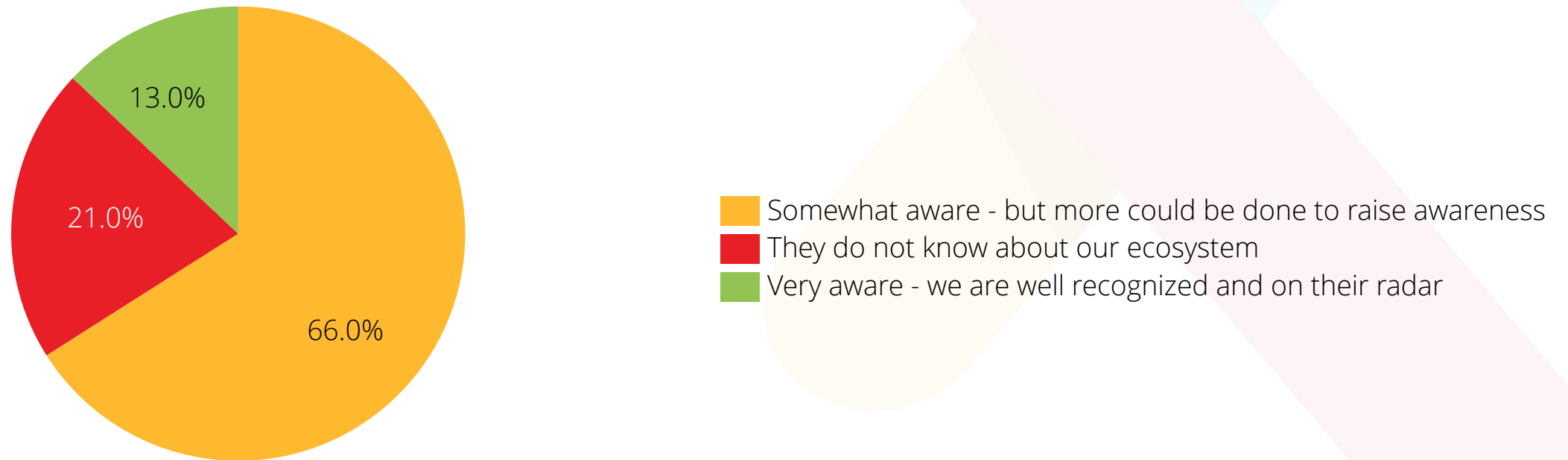
# Culture Change – Focus on Collaboration

- Ecosystem Map / Platform that makes players visible across the region
  - Two local pilots under development including information on programs, investors and hubs (Albania and North Macedonia)
  - Absence of solutions in all other geographies
  - No collaboration, co-development or interoperability at this stage
- Communications and Media
  - Regional reportage and news platform highlighting the positives of entrepreneurships
  - Geared towards sharing success stories, insight and contacts
- Role of Keystone
  - Systematic approach, templates and coaching for local keystone teams across the region
- Regional Challenges that require participants to start collaborating around larger cross-regional themes
  - See Grand Challenges and Smart Specialization

# **Additional Recommendations – Driving international brand recognition**

Collaboration Opportunities to promote the  
WB6 region's visibility with international  
investors and talent

# How aware do you think potential clients and investors in other countries are of the digital tech sector in the WB6 region?



Source: Primary Survey, Mar. 2018, Technation UK

# Creating a compelling Western Balkan Brand internationally

## International Rankings

- Start-up ecosystems are ranked by a variety of organizations.
- Most importantly the GEN Global Innovation Report and Startup Genome's ecosystem ranking are the most relevant and influential ranking providers. The largest WB6 cities should consider joining these rankings as they create significant profile, valuable peer comparison data and typically serve as a first point of reference for any investors or start-up seeking new opportunities.

## International Branding

- International VCs, Angel Investors and other ecosystem actors frequently use databases and resources such as Dealroom, Crunchbase and Tech Crunch when analyzing investment opportunities. Currently, the Western Balkans ecosystems are poorly represented regarding funding rounds, start-up activity and subsector engagement. Partnering with these platforms and encouraging Hub managers to actively help improve data quality will go a long way in marketing the opportunity the region presents.
- The Western Balkan ecosystems need the influx of expertise and "smart money" that today is only to be found abroad; however, awareness and information as to the Western Balkan start-up proposition is sparse and difficult to find.
- Focused and well-orchestrated efforts in PR, communications and social channels further can help build up a more factual and more enticing image for the WB6 ecosystem, particularly with investors and ecosystem leaders abroad; however, only after having completed the initiatives regarding Global Rankings and Investor Databases.

# Table of Contents

- 1 Introduction & Scope
- 2 Status Quo
- 3 SSOP: Mapping Start-up Support Programs and Identifying existing Gaps
- 4 Funding: Evaluating Early-Stage Funding
- 5 Sectors: Feasibility of Smart Specialization
- 6 Scenario 2026: Development Potential and Investment Needs
- 7 Other collaboration opportunities
- 8 Ecosystem Development Roadmap

# WB6 Ecosystem Development Roadmap

Focus area	Success factor	Initiatives	Calendar years					
			2021	2022	2023	2024	2025	2026
<b>Primary Recommendations</b>	<b>WB6 Scaling Program</b>	Feasibility	█					
		Areas of Focus	█					
		Smart Specialization	█					
		Form Start-up Hub Leadership Program		█				
		Alignment with Existing Initiatives	█					
		Corporate Engagement		█				
		Budget		█				
		Execute				█	█	█
	<b>WB6 Funding Solution-Fund of Fund</b>	Feasibility and Sizing		█				
		Establishing WB6 Funding Support/ Fund of Funds (Donor/Gov)		█	█	█		
	<b>WB6 Angel Group Activation</b>	Capacity Development for Angel Training at Start-up Hubs		█				
		Angel Activation		█				
		Angel Training		█	█			█
		Group Formation and Accreditation			█	█	█	█
	<b>WB6 Venture Capital</b>	Feasibility of Local Venture Capital			█	█		
		Decision Attraction vs Build			█	█		
		VC Group Development				█	█	█

# WB6 Ecosystem Development Roadmap

Focus area	Success factor	Initiatives	Calendar years						
			2021	2022	2023	2024	2025	2026	
Secondary Recommendations	WB6 Policy Forum	Formation	█						
		Priority Setting	█						
		Execution		█	█	█	█	█	█
	Community and Local Connectedness	Capacity Development for Keystone Teams (in Start-up Hubs)	█						
		Staffing and Budgeting	█						
		Execution		█	█				
		Entrepreneurship Campaign		█	█	█			
	International Visibility	Ecosystem Mapping	█	█	█				
		Join International Rankings	█						
		Improve Data with Dealroom/ Pitchbook	█	█	█	█	█		
Branding Campaign			█	█	█	█	█		



# Contacts

**Stephan Kuester**

+44 7785370833

stephan@startupgenome.com

**Ethan Webster**

+1 215 535 4465

ethan@startupgenome.com

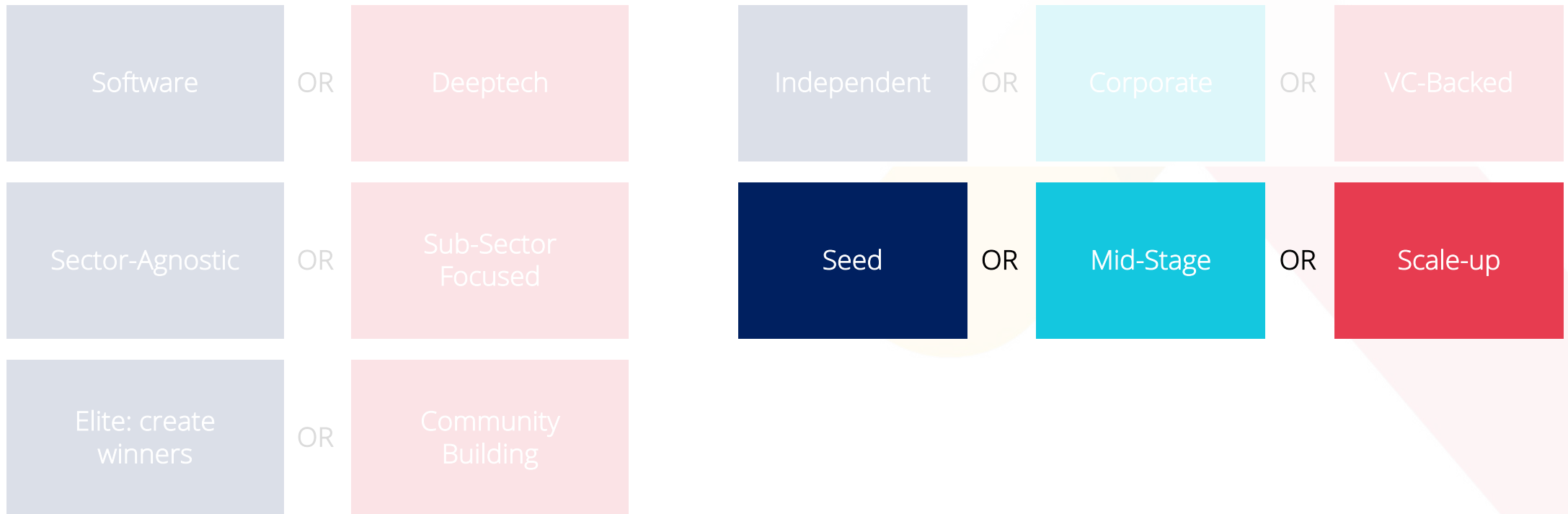


# Appendix

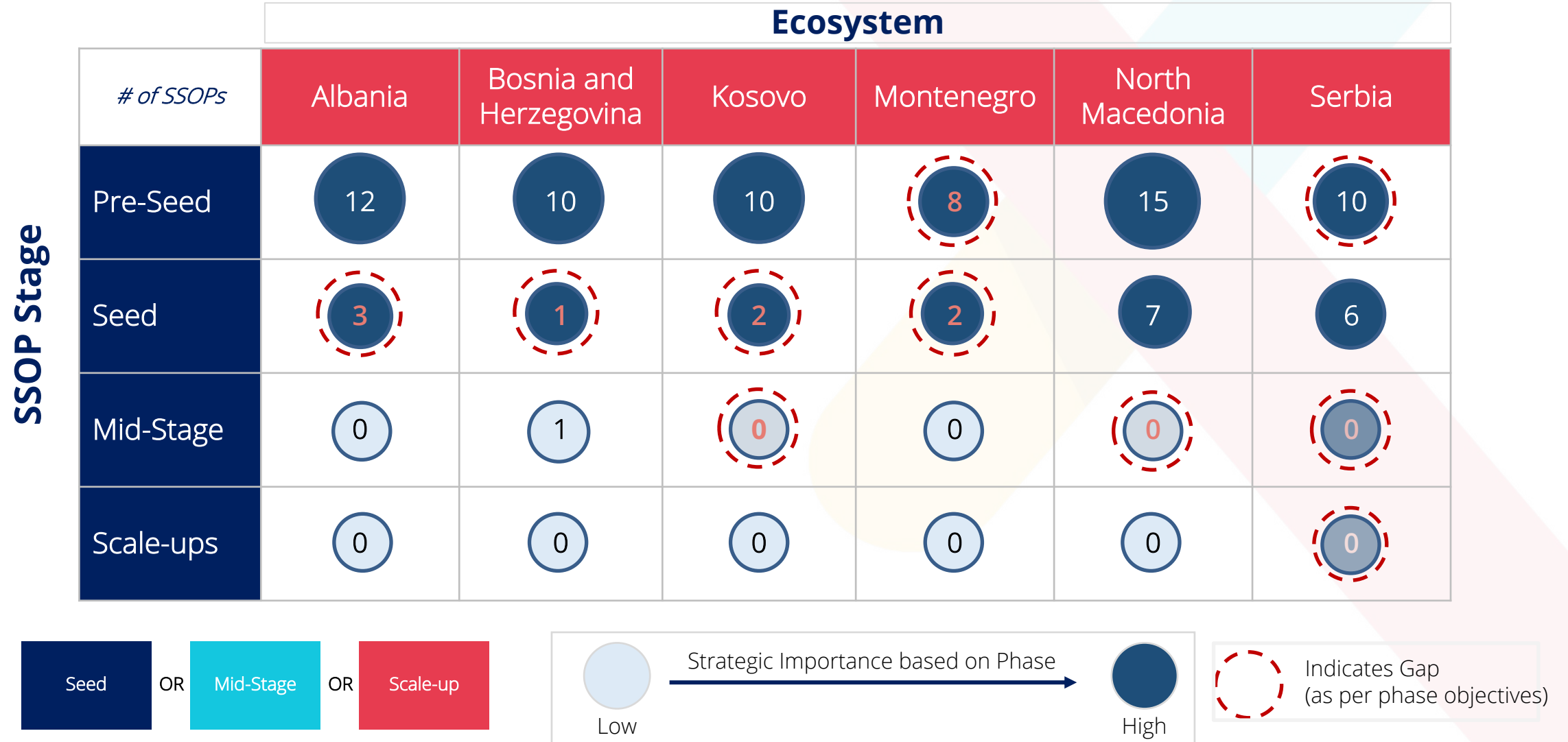
# Achieve SSOP strategy through a portfolio of investments balanced across key dimensions

## Portfolio Dimensions

---



# Selected SSOP portfolio by Stage and Country



# Albania – Selected SSOP Landscape

		Stage				Services						
		Ideation	Incubation	Concept	Growth	Technical Skills	Entrepreneurial Skills	Mentorship	Workspaces	Equity investment	International Scaling	Advocacy
1	Agro & Social Fund	Yes								Yes		
2	AIDA	Yes								Yes		
3	CEED Albania	Yes				Yes						Yes
4	Dutch Hub								Yes			
5	FED Invest									Yes		
6	FondiBESA									Yes		
7	ICTS Lab	Yes				Yes						
8	InnoSpace					Yes			Yes			
9	Oficina	Yes	Yes	Yes		Yes	Yes	Yes	Yes			
10	Open Labs Hackerspace	Yes				Yes			Yes			
11	Protik	Yes				Yes	Yes	Yes				
12	TechSpace	Yes				Yes						
13	Tirana Business Park											
14	UK-Albania TechHub		Yes	Yes	Yes	Yes					Yes	
15	Yunus Social Business	Yes	Yes			Yes						

**LEGEND:**  Yes  NIL

# Bosnia and Herzegovina – Selected SSOP Landscape

		Stage				Services						
		Ideation	Incubation	Concept	Growth	Technical Skills	Entrepreneurial Skills	Mentorship	Workspaces	Equity investment	International Scaling	Advocacy
1	Beezone	Yes	Yes			Yes			Yes			
2	BIT Center	Yes	Yes			Yes		Yes	Yes			
3	Foundation 787	Yes	Yes			Yes	Yes		Yes			
4	Foundation Mozaik	Yes	Yes			Yes	Yes	Yes				
5	Hub 387	Yes				Yes	Yes		Yes			
6	INTERA Technology Park		Yes			Yes	Yes	Yes	Yes			
7	Linnovate	Yes	Yes			Yes	Yes	Yes				
8	Ministry of Programming			Yes	Yes					Yes	Yes	
9	QLab								Yes			
10	SPARK	Yes				Yes						
11	Zenica Development Agency	Yes	Yes			Yes	Yes					

**LEGEND:**  Yes  NIL

# Kosovo – Selected SSOP Landscape

		Stage				Services						
		Ideation	Incubation	Concept	Growth	Technical Skills	Entrepreneurial Skills	Mentorship	Workspaces	Equity investment	International Scaling	Advocacy
1	Business Alliance of Kosovo	Yes										
2	Business Support Center	Yes				Yes	Yes					
3	D&D business support	Yes				Yes	Yes	Yes				
4	Gjirafa Labs	Yes	Yes	Yes				Yes	Yes			
5	ICK	Yes	Yes			Yes	Yes	Yes	Yes			
6	ITP Prizren	Yes	Yes			Yes	Yes	Yes	Yes			
7	Innovations Lab Kosovo	Yes				Yes	Yes					
8	Jakova Innovation Center	Yes	Yes			Yes	Yes		Yes			
9	MDA Foundation	Yes				Yes	Yes	Yes				
10	Open Data Kosovo	Yes				Yes			Yes			
11	Prishtina Hackerspace	Yes				Yes			Yes			
12	STIKK	Yes										

**LEGEND:**  Yes  NIL



# Montenegro – Selected SSOP Landscape

		Stage				Services						
		Ideation	Incubation	Concept	Growth	Technical Skills	Entrepreneurial Skills	Mentorship	Workspaces	Equity investment	International Scaling	Advocacy
1	Balkanoffice											
2	Boostmeup											
3	BSC Bar											
4	Digitalizuj.Me											
5	Digitalna Fabrika											
6	Innovation Center											
7	Playworking											
8	STP Montenegro											
9	Tehnopolis											

**LEGEND:**  Yes  NIL

# North Macedonia – Selected SSOP Landscape

		Stage				Services						
		Ideation	Incubation	Concept	Growth	Technical Skills	Entrepreneurial Skills	Mentorship	Workspaces	Equity investment	International Scaling	Advocacy
1	ARNO											
2	Brainster Space											
3	CEED Hub											
4	CEFE Macedonia											
5	Coffice											
6	Creative Hub											
7	Fund of Innovation											
8	INNOFEIT											
9	Macedonia 2025											
10	NCDIEL											
11	Public Room Skopje											
12	Seavus Incubator											
13	SEEU Tech Park Tetovo											
14	Skopje Lab											
15	Social Impact Lab											
16	Social Innovation Lab											
17	Startup Macedonia											
18	UKIM Accelerator											
19	WB Angels Investment Fund											
20	X factor Accelerator											
21	YES Incubator											
22	SEAF											

**LEGEND:**  Yes  NIL



# Serbia – Selected SSOP Landscape

		Stage				Services						
		Ideation	Incubation	Concept	Growth	Technical Skills	Entrepreneurial Skills	Mentorship	Workspaces	Equity investment	International Scaling	Advocacy
1	Business Incubator											
2	Center for Technology											
3	Science Technology park											
4	Digital Serbia Initiative (DSI)											
5	Founder Institute											
6	ICT Hub											
7	Impact Hub											
8	In Centar											
9	Nordeus Hub											
10	Nova Iskra											
11	Serbia Start Up											
12	Startit											
13	Innovation Fund Serbia											

**LEGEND:**  Yes  NIL

# Interviews conducted

	Region	Organization Name	Interviewee
1	Serbia	Business Incubator Novi Sad	Dorde Celic
2	Serbia	Center for Technology Transfer	Nedeljko Milosavljevic
3	Serbia	ICT Hub Venture	Milos Matic
4	Serbia	Digital Serbia Initiative (DSI)	Nebosia Djurdjevic
5	Serbia	EBRD- Star Venture	Dejan Tonic
6	Bosnia and Herzegovina	HUB387/Academy387	Jovana Music
7	Bosnia and Herzegovina	Ministry of Programming	Sara Lerota
8	Montenegro	Innovation and Entrepreneurship Center Tehnopolis	Anja Grabovica
9	Kosovo	Innovation Center Kosovo (ICK)	Uranik Begu
10	Albania	Oficina Innovation Center	Arjan Ymeri
11	Albania	Protik Innovation Center	Erika Grabocka
12	Albania	EU for Innovation	Patrik Fetahaj
13	North Macedonia	SEEU Tech Park	Gjorgii Rafajlovski
14	North Macedonia	UKIM Accelerator	Aleksandar Stamboliev
15	North Macedonia	Startup Macedonia	Nina Nikolikj
16	North Macedonia	Fund of Innovation	Kosta Pretrov
17	North Macedonia	Pixlye	Svetlana Kordumova
18	Regional	Swiss EP	Jakob Modeer